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[Clinical Medicine]

THE AMERICAN JOURNAL OF CLINICAL MEDICINE

VOLUME

22^2

1915

The
American Journal of Clinical Medicine, Inc.
Chicago, Ill.

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no.7-12

The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use

Vol. 22. No. 7 JULY, 1915

What Man Craves

THE Harrison antinarcotic law is making quite a stir among users of drugs, and many curious tales are being told of the habitues and their doings. As it grows increasingly difficult to obtain their "dope," the police stations and hospitals are besieged by unfortunates seeking relief. Their vagaries are attracting general attention, and more interest is being taken in drug habits, and the victims thereof, than ever before. We may well pause to inquire, why these habituations persist?

All the world makes use of the caffeine-bearing plants in the form of hot drinks. It is notable that every such plant as yet discovered has been utilized in just this manner, and no other plant has been thus used. So the Chinese employs the leaves of the tea plant, the Arabian the coffee berry, the West African the kola, the Mexican the berry of the cacao, the Brazilian an extract from guarana, and the Paraguayan the leaves and twigs from the maté. Only one other plant is known to contain caffeine, the American holly; but it also develops an emetic principle, so that while the Virginian Indians utilized it as a medicine they could not make of it a beverage.

All male mankind uses tobacco; and wherever the women form this habit, they are as prone to it as are their menfolk. The southern men smoke and chew, while their women dip snuff. The love of tobacco is innate, and does not have to be acquired. When the Dutch brought tobacco to the Cape of Good Hope, the Hottentots, who had never known the weed previously, were so enamored of it that they traded their herds and flocks for it, although thereby they incurred the risk of starvation. Every race and people, savage and civilized, uses tobacco.

Who can compute the billions of money spent every year for alcohol? Brandy, whisky, gin, rum, wines, beers, and the liquors native to various sections, go to make up a total that is appalling in its cost, in money and in humanity. While temperance is growing, the consumption of alcohol per capita does not seem to decrease.

Many millions of people in Asia and Africa use opium. Other millions partake of cannabis, while the Mexican peon stupefies himself with mescal, and the Peruvian solaces his weary limbs with coca.

What is it in these drugs that makes them so avidly craved by man? They are uni-

versally spoken of as "stimulants," but is it really stimulation that they afford, and is it this quality that makes them desirable?

Miladi returns from a day's shopping, tired, irritated, her face drawn and contracted, worried by various unpleasant little occurrences and disappointments. The maid, a skilled therapeutist, with limitations, fetches a cup of steaming-hot tea. The lady sips it, her vessels relax and distend, a grateful warmth pervades her body, the vascular and mental tension gives way, and a sense of comfort and restfulness steals over her. The worries seem to lose importance, the disappointments fade, and don't appear to matter; shortly she resumes her animation and is laughing over the humorous side of her day's experiences.

The immediate effects of cocaine are almost exactly identical with the preceding; no user has ever been able to describe other effects than those closely similar to what are produced by tea or coffee. The ulterior action, in inducing moral degeneration, is not perceptible to the victim.

In many respects the action of alcohol is also similar: it fills the blood-vessels and relaxes their caliber; warms the body by opening the capillaries to the influx of blood; and exerts a relaxant influence over the frame and the mental faculties, which are progressively paralyzed. Many drinkers say that they like to drink until they feel comfortably full, and then they take enough to keep up this sensation. The cerebral hyperemia induced may occasion mental excitement, or even delirium, ending, with repeated potations, in complete paralysis of consciousness, and in muscular relaxation.

Opium users may take enough of the drug to remove the sense of fatigue, so they can work long after they should have stopped for rest. Or, they may indulge in just enough to induce mental and physical relaxation, a sense of "comfort," the abolition of worry and uneasiness, and the production of an emotional quiet, a restful realization that "nothing really matters."

Cannabis and mescal induce peculiar deliria, the one erotic, the other a color display; but these are incidental, and the one distinguishing feature of all habit drugs is present, that of *relaxation*.

It has long been recognized that what we usually call stimulation is not that at all, and that our so-called stimulants are in reality sedatives. Alcohol is from first to last a paralyzer, its apparent increase of power being release from salutary restraint. The man who is tired or worried takes a drink. The opium habitue who is irritated takes an extra dose. The merchant whose business is in so bad shape that he can see naught but failure ahead, fills his pipe, and, as he inhales the nicotic smoke, his worries leave him and he grows tranquil. From the cup of tea to the brandy bottle and the hypodermic dose of morphine, there is merely a gradation; the object and the effect are the same in all.

Relaxation, physical, vascular, mental, moral; relief from worry, from fatigue, from strain, from duty, from obligation—this is the one great boon that men demand, and they seek it from any and all sources. Little wonder that death should lose his terrors; for in the grave all human ills cease, and the rest is complete. A London cabman stood by while a lady surveyed an individual lying on the walk, dead drunk. The lady said: "Poor fellow; he is sick!"

The cabman replied: "What would I give to be half as sick!"

Is the absolute abolition of consciousness such a boon? Why, then, should we not welcome death, which is merely a permanent unconsciousness? Have the poets who celebrate death stumbled upon a great truth? Here is a little verse from the country Frisian, translated by the Countess of Blessington:

What art thou, Life?
A weary strife,
Of pain, care and sorrow.
Long hours of grief,
With joys how brief,
That vanish on the morrow.

Death, what art thou
To whom all bow,
The sceptered king and slave?
The last, best friend,
Our cares to end,
Thy empire is the grave.

The need and the desire for relaxation are innate. The bow must be unstrung when not in use. The athlete must go off training at the proper time. Physical strain, mental strain, moral strain, all demand periods of relaxation to follow. The moral tension of the Commonwealth was followed by the debauchery of the court of Charles II. The schoolboy's yell when released from study is the expression of this requirement of his nature. The knowledge that the week's saturnalia of the carnival is coming, helps many a one to keep straight, and straitlaced, until the season for relaxation and gayety dawns.

Somewhere, I picked up a tale of three venerable cardinals, who were accustomed

at intervals to get together, lock the doors, and curse for an hour, until nature was relieved from the strain of saintliness too long continued at high tension. How many a wild orgy would be avoided, were the unfortunate individual to take a week's fishing, instead. When relaxation comes to be recognized as a right and unavoidable attribute of humanity, when it is prescribed when and as needed, not considered immoral but natural, we shall see less wickedness, and fewer nervous breakdowns among the men of affairs.

All this is of especial importance, now that prohibition is spreading, and the tendency to use alcohol is frowned down in polite society. In the days when Sterne and Smollett wrote their romances, it was considered unworthy of a "gentleman" to go to bed sober. The four-bottle man looked with contempt on the gill-sipper. Read those works, and realize how far we have climbed. But as we shut out the older methods of securing relaxation, let us be careful to provide others as effective, although innocent.

God sends his teachers into every age,
To every clime, and every race of men,
With revelations fitted to their growth
And shape of mind, nor gives the realm of Truth
Into the selfish rule of one sole race.

—James Russell Lowell.

CONTRACTUAL HEALTH INSURANCE

The world moves slowly, but it never stops. The moment we feel that we have reached a secure stopping place, when we have completed our work and are ready to sit down, somebody behind us is stepping upon our heels. We put in years and years developing the alkaloidal therapeutics, and just as our rich results are formulated and systematized come the serums and vaccines, with their brilliant successes and illimitable possibilities. Our work is sound and our conclusions are true; the results of our efforts will endure and form an integral part of the grand structure developing into the therapy of the future. However, they form only a part of it. What we fondly hoped would constitute the great central dome turns out to be but one of a group, and may, eventually, prove to be but a subsidiary edifice, a wing or an L of the majestic structure.

The basis of medicine is changing radically. The enormous advances made by surgery and the multiplication of hospitals in every town of any size threaten to destroy, in the doctor, the last vestige of independent personality, to reduce him to the position of a drummer, a solicitor for the big city men and the institutions. Here is a town of 3000 inhabitants. Of the doctors here, one sends his "cases" to a Chicago hospital; another, to a Cincinnati surgeon; a third, to the hospital at Champaign; and the fourth, to the one at Decatur. Nobody seems to think of retaining the responsibility for the patient or solving the problem himself. Every difficulty or obscurity is hurriedly seized upon as an excuse for rushing the patient off to a hospital.

"Well," comments the shrewd old layman, "the patient gets better services and more experienced doctors there; has a better chance for recovery, fewer of irreparable harm from ignorance and lack of skill."

Some truth in this, and the more shame to us. We have skied the requirements for the degree, raised the cost of medical education until only a wealthy man can afford it for his son, and, yet, we do not turn out men as well qualified to accept and fulfil the duties of a practician as were our great-grandfathers. Back in 1871, a class was graduated from old Jefferson. On his journey home, one of the new graduates got mixed up in a railway accident, and he successfully amputated a man's thigh with a pocketknife. Could this feat be expected nowadays from the men who shirk off upon a hospital every molehill difficulty?

These things and many others are pushing us along the only path open, the only right one for us to follow—the road toward accurate and early diagnosis and preventive medicine. This we must follow, or else retire from the field of medicine, altogether.

The eternally-harped-upon and exaggerated overcrowding of the profession points straight to the desirability of *fewer* patients, better work, and, in our diagnosis, more care, more thorough methods, more science. The withdrawal of patients from us and their resort to the far more expensive hospitals demand that we extend our own field, by beginning sooner, by seeking to detect disease earlier and stop its development, by studying to prevent disease and maintain our patients in health. The growing expensiveness of sickness itself tends to make it necessary to keep well—no man can afford, nowadays, to be ill, if this can be prevented; and everybody can better afford to pay the doctor to keep him well than he can to be cured.

The position to which we are being impelled is that of supervisor of our clients' habits and life in general, corrector of insani-

tary living and surroundings; and for this reason we must replace the old, wornout fee system by one more suitable to the nature of our duties.

The doctor who limits his practice to a certain number of families, does his whole duty by them, and assesses upon them, proportionately to their means, enough to afford himself an ample income will find himself in strict accord with the times now, and for the future as far as the veil may yet be lifted.

It does not follow that all men are honest because they are poor; and I have known some who were friendly and generous, although they had plenty of money. There are some landlords who do not grind down their tenants; there are actually bishops who are not hypocrites.—William Makepeace Thackeray.

THE TANGO, AND LEWDNESS

Early in the last century, the waltz was brought to England from its birthplace in Germany. Lord Byron was among those very proper Britons who were scandalized by the new dance; and he condemned it in a poem beginning:

> Muse of the many twinkling feet, whose charms
> Have now extended up from legs to arms.

That eminent moralist, however, was lame and couldn't have waltzed had he the inclination. The waist-embracing dance remained the theme of the sermonist's denunciation and the wit's ridicule for many years. N. P. Willis, the popular short-story writer just before the civil war, wrote admiringly of the heroine who "did not waltz except with husband or brother, but did not think it wrong in those (inferior beings) who considered it right."

The waltz, after reigning supreme for a century, is now obsolete. The group of new dances known collectively as the tango has replaced it in popular favor. Despite the diatribes of divines and moralists, the shafts of wit, and the sage advice of wisdom (?), the gay youth abandons himself to the seductions of hesitation, maxixe, *et id omne genus*, with an enthusiasm he never showed for geometry or syllogism, ax or saw, theodolite or crucible. Doctors wisely prescribe it, and old fatties dance to reduce their avoirdupois, oldish ladies "hesitate" to cure what ails them, boys and girls tango because they love it. Step out for a moment and return, to find the office-boy tangoing with the stenographer. While you are at lunch, the bookkeeper takes a turn with the cashier and the typewriter shows the head clerk her last new step. Greatest marvel of all—the Boy has some use for his sister, for she can practice with him.

The universal howl of disapproval has had much effect—it has directed attention to the new dancing and advertised it widely. Many a comely maid whirls deliriously in the mazes, who would have exhibited but a languid interest in it, were it not for the very pointed denunciation of the tango on moral grounds. For, as truly as "there is more joy over one repentant sinner than over the ninety-and-nine who sin not," so the accusation of bold badness has to the innocent girl more fascination than have twenty-nine Sunday schools. Innate depravity? By no means. Rather, innate curiosity. It has ever been so: the first Bacchantes were women, and every new cult characterized by wild Bacchanalian and Priapian revels has attracted its overbalancing quota of female worshipers.

Does the tango lead in this direction? Some—many—say it does. One woman writer describes it as a nature-dance, as expressing a phase of nature as old as Eve's first foregathering with Adam, as the call of sex for mate; but as such an expression of nature as the young lady's mother would not approve. That seems plain enough, but a popular evangelist goes further. He says flatly, that any man who says he can tango without arousing the sexual passions is a liar, else he is less than man. True?

Many, ah, many years ago, we, too, danced. The same thing was then said of the dances in vogue, in terms not less emphatic. We never tired floating (shut up! we were lighter then) through the dreamy mazes of the waltz, the polka, mazurka, schottische, galop, and reel; threading the intricate figures of cotillion, lancers or country-dance; or proudly conducting our fair partner adown the hall in the stately minuet. Yes, until the stars paled before the coming dawn, when we retired to sleep and dream of the dance, and awoke to count the days until the next dance was due. But never once did we experience the slightest consciousness of sexual passion; neither could we, on questioning our companions, find one in whom dancing produced any such result. The poetry of motion, the exhilaration of the swing and whirl, the zest imparted by the girl's participation, all were as innocent as was the spooning of Paul and Virginia in the sixth year of their young lives.

And, yet, we indignantly repudiate the allegation that we were or are imperfect in the full and normal development of the attributes of masculinity. One need not

be emulous of the career of the town bull, and, still, be quite satisfied that among men he is not to be looked upon as less than a fully qualified member of the lodge.

How about the new dancing? Once upon a time a greatly eminent doctor of divinity, who held down with credit a professorship in a theological seminary, was sitting in his back parlor watching his daughters and their guests. One of the girls went to the piano and played, while the others walked through the figures of a quadrille. When it was completed, the father asked his daughter what was the game they had been playing. He was told that they had been dancing! Greatly surprised, he said: "Was that dancing? Why, all my life I have been denouncing and preaching against dancing, and until now I never saw it or knew what it was. I think it was a very pretty game and entirely unobjectionable."

This came to my mind recently when I sat in a friend's parlor and watched his son and daughters tango, their parents looking on. It was a beautiful exhibition, free from the slightest trace of lewdness—because there was not a trace of lewdness in the minds of those who tangoed. Vulgarity, sensuality, obscenity could be introduced into any dance by the person in whose mind such things exist habitually. When vileness is innate, it comes out, in words or actions that bespeak nothing but purity when coming from the pure.

We very much fear that the eminent evangelist who saw so much bestiality in the tango inadvertently allowed the veil to be lifted from his own inner consciousness.

It is surely better to pardon too much than to condemn too much.—George Eliot.

A NARCOTIC-DRUG CASE

"My wife is fifty-four years of age, has borne five children, her general health is good, has used opiates for the last twenty years. She began by taking occasional doses for the relief of the nausea of pregnancy. She was becoming a wreck, until I persuaded her to quit the syringe and take laudanum, and this she took for some years. I then substituted morphine-solution, taken internally, because of being easier to control and to prevent the usual consequences. She now takes 2 grains a day, in divided doses.

"I have made several attempts to cure her, but did not succeed. Several home-treatments tried also failed. Two years ago, I began gradual reduction, extending over weeks, and this went well until the daily dose was reduced to a fraction of a grain, when withdrawal-symptoms appeared, among them insomnia; also a peculiar prickling or tingling sensation showed itself in the skin of the feet, arms, and face, which she described as the prickling of millions of needles. To relieve this paresthesia, she would stamp her feet and slap her arms and face.

"Meanwhile I cut off the drug and put her on the Lambert drops (belladonna, hyoscyamus, and xanthoxylon), giving 6 drops every hour, and increasing to 16 drops. From this course, I failed to see the slightest benefit, although I kept it up. She was put to bed and had every attention. At times the prickling made her almost frantic. To control this, I gave her codeine phosphate, 1 grain hypodermically, but this afforded only temporary relief. I also tried H-M-C, and then Lloyd's specific medicine gelsemium. I gave bromides, but the stomach rebelled. There was no abatement of the symptoms, and universal muscular soreness developed, so that she would cry out when touched. Her pulse became intermittent and very irregular, despite strychnine, 1-30 grain every four hours. At last I became so alarmed over these symptoms that I reluctantly let her have her morphine again.

"I know my management was faulty; I failed to institute the thorough purging, although I did keep the bowels open with laxatives. I know of no reason why she should not be cured, and she is anxious to get rid of the habit."

So writes a friend. The difficulty, as he rightly places it, was the failure to begin with a thorough and complete cleaning-out. Unfortunately, he took the Lambert "drops" as the essential part of that method, whereas, at the best, they merely exert some sedative influence, while the purgatives get in their work. The prickling was due to the appearance of toxins in the skin, which a free use of pilocarpine should have dissipated.

But, something more decided than purgation is requisite. Give the strong cathartic Lambert advises, and, after absolutely emptying the bowels of the retained masses sure to be present there, keep up the laxative saline; and, whenever any toxic evidences appear, give calomel in divided doses, followed by the saline and colonic flushing. Hot baths prolonged for hours aid greatly in relieving the skin of the toxins that struggle to emerge through the sudoriparous glands. Emetine may suit the case even better than pilocarpine, or as an alternant.

That pulse needed digitalin or sparteine, rather than strychnine. But, take as your motto: *Irritative symptoms denote toxemia and demand elimination.* Nevertheless, do not eliminate her vitality and let her forces fail. Keep up liquid nourishment throughout, every two hours.

To be gentle, generous, kind; to win by few words; and to disarm criticism and prejudice through the potency of a gracious presence, is a fine art. Books on etiquette will not serve the end, for studious attempt to smile at the proper time, nor zealous efforts to avoid jostling the whims of those we meet; for an attempt to please is often to antagonize.—Elbert Hubbard.

CONSTIPATION AND SURGERY—A DISCOVERY?

For, lo! these many years, we have been earnestly asking the attention of our brethren to the vast importance of the alimentary canal as a source of ailments and diseases innumerable. A certain amount of success has attended our efforts, but, in the minds of many, we were ranked as one-idea enthusiasts, men so possessed with their hobby as wildly to exaggerate the importance of the proposition. Whenever our slogan was heard —"clear out, clean up, and keep clean"— men smiled sardonically, then straightway forgot about it.

Now the position that we have held for a quarter century has received support from an unexpected quarter. The surgeons have made the momentous discovery that the bowels may be brought into their field and subjected to operative intervention. Promptly the reasons justifying such intervention appear, and the list of maladies deducible from bowel abnormalities grows apace. Not the most rabid of our own group, not even Haig at his wildest, not Bouchard or any other advocate of intestinal antiseptics furnishes so lengthy a list of complaints, so damning a bill of particulars as now does the man-with-the-knife-out. Joyfully the entire surgical tribe precipitates itself through the new opening and proceeds to carve out new kingdoms from the colonic tract and its extensions. The ovaries? Kidney waiting decapsulation? Gone, gone to join tenotomy, cutting out uterine ulcer, all the legion of fads surgical. The appendix now is but an outlying bastion of the enemy's fortifications, instead of being the citadel to be demolished; the advance has swept triumphantly over and past that long-contested salient.

When the battle is over, when the rumble of the cannon and the neigh of the warhorse are stilled, when the passions are exhausted and men grow sane, the new boundaries should be delimited about thusly:

By the use of such remedies as the anticonstipation granules, saline laxative, and mineral oil, together with the institution of proper diet and other sanitary habits, constipation may be relieved and cured. In the rare cases in which these measures do not cure, it may be safely assumed that there is present some mechanical factor that requires mechanical relief. We can not expect any drug to straighten out an intestinal kink, replace a retroverted womb, dissolve a fibrous intestinal stricture, untwist a volvulus, relax a hypertrophic anal sphincter or to spirit away obstructing bands or tumors.

By means of drugs, prescribed intelligently, we can, and do, increase the fluidity of retained fecal masses, restore peristaltic power, tone enfeebled muscular fiber, put an end to microbic proliferation and toxin formation, and so reestablish normal daily regularity of evacuation as to enable the patient to accomplish this function without artificial aid from drugs or drugless expedients. That any such condition should be held to justify the invasion of the abdominal cavity with the surgeon's 42-centimeter artillery, is preposterous.

It will be many years before this conclusion will be reached. The pendulum will sway very far toward the surgical side first, and may, possibly, sway back again; but, when it comes to a standstill, if ever it does, it will not be far from the point herein indicated.

FOURTH OF JULY WOUNDS: TETANUS

The first, indispensable, principle in the treatment of wounds inflicted by explosives—notably those occurring from Fourth of July celebrations—is to see to it that the lesion, no matter how trivial, is laid freely open, down to the very bottom. Especially is this essential in wounds upon those parts of the body which are exposed to the surrounding dirt, such as the hands and bare feet. Furthermore, when the wound is situated in a locality where the tissues are hard and the skin is tough and inelastic, so that there is a constant tendency on the part of the wound to close itself up, it is important to make the opening sufficiently large and free to forestall automatic closing; it being best to make a fairly long crucial incision, sufficient to relax completely the surrounding tissues, and it must be kept open until all danger of infection is past. All such wounds should be thoroughly swabbed and flushed with some efficient

antiseptic (of which mercury bichloride is the best example). Then covered with only the loosest kind of dressing, one that will permit the free access of air to the wound. Under no circumstances should it be sewed up or covered with adhesive plaster.

As a precautionary measure, it is advisable that every patient receive an immunizing injection of antitetanic serum, even in the apparently most trivial lesions. It is a significant fact that, of all the injuries resulting from Fourth-of-July celebrations, it is not the major, serious cases that yield the largest crop of tetanus, but the minor, seemingly unimportant ones, in which the more vigorous measures of treatment and prophylaxis are neglected.

It has been positively demonstrated over and over again, so that now it may be regarded as a certainty, that antitetanic serum, if given early—before the development of actual infection—acts as an efficient preventitive. Consequently, the physician should insist upon treating these lesions, minor as well as major, energetically from the beginning. No possible harm can result from an occasional excess of zeal, while on the other hand, many lives may thereby be saved. Every doctor should make it his business to lay in, in ample time, a plentiful supply of the serum, so as to be prepared for all emergencies.

You can't appreciate home till you've lost it, money till it's spent, your wife till she's joined a Woman's Club, not Old Glory till you see it hanging on a broomstick on the shanty of a consul in a foreign town.

—O. Henry.

PREVENTIVE VERSUS CURATIVE MEDICINE

It is one thing to realize and to proclaim the superior advantages of preventing disease wherever possible, but quite another, to belittle and repudiate the importance of curing it when developed. There is no necessary or plausible relation between the two positions; as a matter of fact, the latter position is wholly untenable and false. One might as well declare that, because it is much wiser and better to prevent men and women from going morally wrong, therefore all the agencies and efforts of the past and present for reclaiming and reforming those who have gone wrong are valueless, even harmful, since in individual cases these very measures have tended to harden the moral natures which they were intended to soften.

It is high time that some of the fallacies and misrepresentations about curative medicine that are being bandied about in the name of preventative medicine were exploded and corrected. Hygienic and sanitative science does not need any bolstering at the expense of its sister. They who know both of them best also know that the two work in cooperation and complement each other.

The very first basic element in the fallacy is, the false idea expressed in so many quarters that a wave of antagonism to medicine is sweeping over the world. That is not true. Unfortunately, there are, in the profession, some skeptics and nihilists who talk a great deal about the uselessness of drugs and who sneer at those who give them; still, the great body of practicing physicians, the men on the firing-line, who are doing the actual work of saving life and restoring health, the men whom people send for and hang upon when their loved ones are sick and in danger of dying, these men do not descant upon any antimedicine wave engulfing humanity. These men know the value of sanitation and hygiene and prophylaxis—none knows better—and it is part of their busy lives to share in the promotion of these measures.

But these same men know, too, in a far more practical way than anybody can tell them, that the problem of curing disease still confronts man just as it confronted him at the beginning of the race; so, when they are called to hasten to the bedside of someone sick and suffering, it is not with a lecture on preventive hygiene and sanitary drainage that they go armed, but with tried and proven remedies, in which both science and experience have given them faith

It is quite true that the need for taking medicines is growing steadily less, thanks to the unselfish efforts of these very men in spreading the gospel of hygiene and prevention. It is also true that the preparation and the mode of giving drugs have been greatly simplified, thanks to our better and clearer knowledge about drugs and their action. We even may go a step further and say that the field of drug-therapy is, nowadays, divided with other means of treating the sick, owing to our improved understanding of the nature of disease.

Nevertheless, all these things do not constitute a wave of antagonism to medicine or call for any contemptuous attitude toward curative therapy. Never was the medical man's faith in drugs at a higher mark than now and never was his use of them so intelligent and effective. He is demanding, and receiving, and using better and ever better preparations of drugs. He no longer is con-

tent with the old, crude, shotgun remedies; he demands the sharpshooting rifle that will hit the bull's eye and ring the bell.

Every intelligent physician realizes, of course, that the ultimate triumph of medical science lies in preventative medicine; that we shall eventually conquer disease, not by curing it, but by heading it off. And he is unselfishly doing more than anybody else to bring this about. Yet, the doctor is a practical man.

To speak of the time when preventive medicine shall have banished sickness from the earth is like talking about the time when all the coal shall have been used up and we shall derive our heat directly from the rays of the sun. Both events are far beyond the life of our present generation and probably of a goodly number of succeeding ones. And not only is this true. It is true, furthermore, that the work of the doctor, in curing and alleviating disease, will, unquestionably, play an important part in bringing about this final achievement of preventive medicine. Curative medicine still holds an indispensable place in medical science and practice.

Ah Love! Could you and I with Him conspire,
To grasp this sorry Scheme of Things entire,
Would we not shatter it to bits—and then
Remould it nearer to the Heart's Desire?
—Rubaiyat.

THE THERAPEUTICS OF HEMLOCK AND CONIINE

Ages before Socrates drank the fatal dose of hemlock, it was known that this plant contained a powerful principle capable of causing marked changes in the functioning of the human body, and even death if the amount ingested were sufficiently large. That so potent a substance should be utilized in disease-conditions, the opposite of those produced by the plant, seems an obvious conclusion. Nevertheless, after the lapse of many centuries, we find that hemlock is unknown to the body of the profession as a remedy and scarcely utilized by the most accomplished therapeutists of our day. Yet, we may say, without fear of contradiction, that the crying need of the medical profession today is for effective remedies with which to oppose the pathologic conditions recognizable by virtue of our advances in diagnosis.

Doubtless the great Athenian drank a decoction made from the fresh plant. Few of us could obtain such a preparation, even were our patients willing to partake of the draught; its nauseous taste and the difficulty of retaining it on the stomach would suffice to condemn it. Such a mess could not be accepted by modern medicine, the peril of using so uncertain a preparation of such a powerful an agency alone condemning it. The official galenic forms are worse. In days of yore, we employed the extract, the same as we did that of taraxacum, as an inert excipient for pill-masses; the tincture we used as a means of wetting the massive doses of lupulin administered to the inmates of insane asylums.

Succus conii had some vogue, but finally was dropped, as uncertain, prone to decomposition, changing in strength from day to day. And thus a most valuable remedy fell into disuse and oblivion, until the day when the alkaloidists rescued it and, as coniine, presented it in a form that fulfilled all the requirements of modern medicine.

Coniine is a volatile alkaloidal base, so that when it is being prepared the odor of mice diffused by it makes the women of the factories hysterical. Its salts, however, are stable, and, when made up in sugar-of-milk granules, are as enduring as any alkaloid in the Pharmacopeia. Coniine being a nerve-sedative, the hydrobromide obviously is the proper salt to select.

Since its commercial introduction, we have been enabled to study the action of coniine hydrobromide with the necessary accuracy and to apply it therapeutically with precision; so, can speak of it convincingly.

Coniine is specifically a sedative of the centers in the spinal cord. Its action is first displayed on the peripheral terminals of the nerves, then on the conducting cords, and, finally, on the centers. Primarily, and briefly, it accelerates respiration and raises vascular pressure, but this soon is reversed and the sedation increases with repeated doses, until it ends in complete paralysis. The action is quickly manifested, while that of a single effective dose endures about four hours. Coniine is eliminated by the kidneys and partly by the lungs, passing off in gaseous form, but the doses administered therapeutically are not large enough to impart the mouse-odor to the breath.

The first indication for the drug should be one calling for lessening the cutaneous and peripheral irritability anywhere in the distribution of the spinal nerves. Application of the drug may be made when one is dealing with any of the spasmodic forms of pulmonary irritation, asthma, pertussis, irritable coughs of every sort. Singultus gives way to coniine if the cause first be removed, such as an overloaded or dilated stomach. Coniine may replace atropine in whooping-cough oc-

curring in full blooded children, with a tendency to cerebral hyperemia; in fact, the former is preferable, as a rule, in this malady.

The sedation of cutaneous irritability points to its application in tetanus and poisoning from drugs of the strychnine group. So also in rabies, coniine should prove a useful palliative. In chorea it comes near being a specific if the etiologic element first is eliminated. Of course, it would be absurd to give sedatives without first correcting ocular defects or other causes of irritability.

In neuralgias, the action is not so certain. Coniine acts principally upon the motor tract, but is not without control over the nerves of sensation. The term neuralgia has not the definite meaning it once was credited with, and the malady, as met clinically, may be compounded with neuritis, results of trauma, lymphatic deposits along the nerves, autotoxemia, reflex irritations, and so on. One would deduce from this that coniine may be useful as an ingredient of a prescription for neuralgic pains rather than to be administered alone for its single action.

Coniine acts as a potent sedative upon the sexual function, in both sexes. It relieves spasmodic dysmenorrhea with certainty; it quells nymphomania and also its kindred, satyriasis; prevents erections and the consequent chordee in gonorrhea, and always should be given in acute forms as a preventive of this latter symptom, with its disastrous consequences. The wise and observant physician will find many instances where application of coniine may be made for this purpose, without enlightening the patient as to the remedy or the reasons for giving it.

In epilepsy, coniine is so exactly indicated that it is difficult to explain its neglect. The diminution of peripheric irritability and sedation of the spinal centers and the sexual apparatus are all needed by epileptic patients. This writer has employed coniine largely in this malady, and places it far above the bromides in real effectiveness, although perhaps being less prompt in manifesting its beneficial activity. Coniine does not interfere with digestion, impoverish the blood or impair the mental and muscular forces.

Frequently, where the best diagnosis the clinician can make at the time is, "nervousness," fidgets, temper, discomfort, and so on, coniine will afford relaxation and quick relief while one is waiting for the action of the laxative.

For adults, the usual dose is a milligram, and this should be repeated every half hour or three doses, then hourly for three more, and subsequently according to the effect. When this is at all manifest, the doses should be spaced at four hours, if the effect is to be maintained.

Like all relaxants, coniine is rapidly eliminated, and the effects of an overdose are soon past, unless it is of lethal amount. Strychnine to effect, and this maintained, is the treatment for overdosing.

Who knows not pain, knows not, alas!
What pleasure is. Who knows not of
The bitter cup that will not pass,
Knows not the taste of love.
O souls that thirst, and hearts that fast,
And natures faint with famishing,
God lift and lead and safely bring
You to your own at last!

—James Whitcomb Riley.

LIQUID PARAFFIN IN CHILDREN'S INTESTINAL DISEASES

As the hot weather comes on (it doubtless will be in full blast by the time this number of our journal issues from the press) and the doctor is confronted by the inevitable epidemic of children's diarrheas, of varying degrees of severity, there will be a crying demand for an effective cathartic with which to clean out the infected bowels of young America and thereby prevent, if possible, or at least shorten the threatened attack of enteritis. For, vigorous catharsis, timely produced, not only mitigates, but often succeeds in heading off the invasion of the Shiga bacillus and its associated bacterial hordes.

There are, of course, laxatives aplenty, in and out of the Pharmacopeia. But not all of them, by any means, are desirable in these conditions. The great trouble with most of them is that they irritate the already irritated and irritable tract and thus at the very outset impair the physiologic integrity of the intestinal mucosa, upon which the defensive capacity so greatly depends. The prime desideratum is, to use an agent that will efficiently clear the bowel of its contents, and, at the same time, not only will leave its mucosa and its glands unirritated, but, if possible, even help to soothe, and heal, and restore these inflamed tissues.

We have an almost ideal agent of this kind in liquid paraffin; and in the aromatic emulsion of liquid paraffin we have an excellent pharmaceutical preparation of this agent. Charles McNeil, of the Royal Edinburgh Hospital for Sick Children, after a year's experimentation with liquid paraffin, reports, in *The Edinburgh Medical Journal*, that its influence (outside of its laxative action)

"is, probably, to soothe the congestion and catarrh of the surfaces, to diminish the congestion of the blood-vessels, and to restore a healthy activity to the digestive glands."

According to Doctor McNeil's findings, liquid paraffin is of value, not alone for its sedative laxative effect in infectious diarrheas, but for its alternative influence in intestinal dyspepsia of young children, which is of much more frequent occurance than are cases of actual Shiga infections, but out of which many times a true infection takes rise.

"The sedative and restorative action of liquid paraffin upon the unhealthy mucous membranes," he reports, "is followed by rapid improvement in the condition of malnutrition." And he adds: "I have tried the other well-known medicinal remedies for chronic dyspepsia, both alone and in conjunction with other emulsions, and I have been persuaded that in most cases the treatment by liquid paraffin and castor-oil is superior to everyone of these."

It is certain, therefore, that in emulsion of liquid paraffin we have an invaluable addition to our armamentarium for combating those trying conditions of the child's gastro-intestinal tract that tax our prophylactic and therapeutic resources during hot weather. Incidentally, the oil is tasteless, but, by the addition of aromatic flavorings, can be made just as agreeable to the palate as one may desire—a factor of no mean value when one is dealing with children.

A retentive memory may be a good thing, but the ability to forget is the true token of greatness.

—Elbert Hubbard.

THE CURATIVE AND PROPHYLACTIC TREATMENT OF TETANUS

A highly instructive discussion of the problem of the cure and prevention of tetanus took place at a meeting of the Society of Physicians of Wien. (*Vienna Med. Woch.*, 1914, p. 2476), those participating being Doctors A. Klein, Wiesel, Ortner, Schnitzler, A. Exner, Riehl, and Paltauf. In the following review of the facts related and opinions expressed, it will suffice to speak in general terms rather than specially as to the respective utterances. While perhaps bringing out nothing particularly new, the value of this symposium consists in presenting in a nutshell virtually all the important connected facts and latest experiences relative to this serious disease; this more especially, in view of opportunities of study at present offering in this most deplorable of all wars.

One of the salient points brought out—and emphasized over and over again—is the fact that tetanus-antitoxin serum exerts no influence upon the disease-process once tetanic symptoms have developed; all these injections then can do is, possibly to prevent serious exacerbation.

The reason for this is plain: The toxin given off by the pathogenic bacilli imbedded in the wound is taken up by the peripheral nerve-endings, thence proceeds centripetally along the nerve-paths, until finally it reaches the central nervous system housed in the skull. The toxin disorganizing the nerve-cells is the cause of the muscular spasms, while the function of the antitoxin is, to destroy the poison given off by the bacilli. Thus, the serum injections constitute a prophylactic measure, but can not antagonize the spasms, for the reason just stated.

A number of deductions logically follow: The toxicogenic microbes must be eliminated; the spasms must be combated with symptomatic measures; the amount of toxin absorbed by the nervous system determines the intensity of the attack; the relative rapidity of the appearance of tetanic symptoms predicates the prognosis—the shorter the period of incubation, the more serious the attack; the nearer the site of infection to the central nervous system (brain), the shorter the incubation-period and the greater the danger; introduction of the prophylactic agent into the wound and immediately above is the rational way, injection into the veins is of some value, intraspinal administration is valueless; symptomatic treatment aids in conserving the energies of the victim.

As to the intravenous administration of antitoxin after tetanus has developed, it may be assumed that, in case lethal proportions of the toxin have not as yet been absorbed into the system, possibly further absorption by the nerve-termini may thus be prevented.

In animal-experiments, the injection of antitoxin into the involved nerve, has been found to "block" the progress of the toxin from the wound. Thus, when such an endoneural injection is made into the ischiatic nerve and then tetanus-germs are implanted above the site, tetanus will occur in the body of the animal, but not in the leg below the injected point. Since in man, however, 300 units would be required, endoneural injections are impracticable; and it is here where injections into the vein are indicated. Still, in localized tetanus, the endoneural method is strongly recommended.

The absolute amount of toxin reaching the central nervous system determines the question of deadliness; consequently, the farther the wound is removed from the brain, the longer will be the period of incubation, and also in proportion the poison engendered is spread throughout a larger measure of nerve-tissue. Thus, an infection at the hip is more dangerous than one in the foot, but a wound on the shoulder gives rise to the symptoms far more rapidly, of greater severity and with very bad prognosis. Trismus is a sign of systemic poisoning, and, the more rapidly it is followed by opisthotonos, the greater the probability of a fatal issue.

Prompt prophylactic measures, it is plain, are of highest importance, and, whenever a wound has come in contact with earth, horse-dung or shreds of clothing, tetanus-antitoxin should immediately be injected — into and around the wound and intravenously if not attended early. Dr. A. Exner, for instance, stated that, in the Balkan war, out of 2000 soldiers having ragged wounds and instantly given prophylactic injections, hypodermically and into the wounds, only 0.8 percent came down with tetanus; the present war should present even better results.

In addition, the wound (laid open freely, when practicable) must thoroughly be disinfected. The sentiment of speakers was against amputation (under certain circumstances) as a means of removing the poison-breeding nidus, inasmuch as the same end can be attained therapeutically, while being useless after the absorption of any notable proportion of the toxin.

Several methods of sterilizing the wounds were mentioned, as having proved satisfactory. One speaker, for example, applies to the wound liquefied carbolic acid, which in a short time is rinsed away with alcohol.

The most interesting, and perhaps somewhat novel, suggestion was the one made by Professor Riehl, who favors chlorinated lime, saying, that its prompt application undoubtedly would tend greatly to reduce the percentage of traumatic tetanus. This chlorinated solution retards the proliferation of the bacteria and also destroys organic matter, including tetanus-toxin; wounds thus treated soon become clean. If used not too strong, no harm is done to the musculature.

Riehl has been employing chlorinated lime for several years for cleaning wounds. As a matter of fact, this chlorine-therapy is in use for counteracting snake bite, and pastils of the chemical are to be had for that purpose. (He asserts having carried such pastils for two or three years, when they still were active.) These pastils are dissolved in water, and the solution is injected round-about the snake bite. The speaker thought that these chlorine compounds also might destroy the local tetanus-toxin as well as the bacteria, when used as for snake bite. For cleansing purulent wounds, he suggests a dressing with a powder of 1 part of chlorinated lime and 9 parts of white bole. Doctor Paltauf also has found this chlorine-therapy excellent for putrid wounds.

The symptomatic treatment endorsed is that at present in vogue, namely, quieting the nerves by means of large doses (5 to 10 Grams per day) of chloral hydrate, internally or rectally; parenteral administration of magnesium sulphate; darkened room and quietude of surroundings. The heart should be supported with digitalis.

Professor Paltauf mentioned that experiments were being conducted, in his institute, by Loewenstein and Eisler, with the aim of reducing the toxicity of tetanus-antitoxin, without impairing its immunizing properties. The idea is, to incorporate with the serum some formol.

A good deal of the trouble of this world arises from the fact that some folks like to have gardens, while others prefer to keep hens.—Nixon Waterman.

THE LABORATORY AND THE DOCTOR

Four prime functions are fulfilled by the laboratory, in its relation to medicine; these being, briefly, to impart knowledge by the inductive method, to cultivate the powers of observation, to apply science to the problems in hand, and to afford opportunity for research and experiment. The didactic lecture, in the curriculum of the medical student, far from playing the entire role, has, in these modern days, assumed the humble part of handmaid for the laboratory-course.

This is as it should be. The methods employed in the laboratory cultivate in the student habits of accuracy, carefulness, and thoroughness; virtues that are destined to last him throughout his career, whether as an investigator or as a practicing physician. It is highly important that all that is known in the realm of exact science should be applied to the problems of medical practice, and the numerous provisions made for the practical use of the laboratory, by doctors in the city as well as in the country, are to be warmly commended.

It is to be borne in mind, however, that these very commendable attributes of the laboratory hold, each of them, an equally specific and emphatic danger. Thus, the cultivation of the inductive method of imparting knowledge, if carried to excess, destroys the power of imagination, without which all knowledge is barren and valueless. The cultivation of the powers of observation, to the exclusion of the faculties of logical analysis, leads to a slavish dependence upon, and bondage to, sheer facts, as though facts of themselves represented the truth. The rigid application of the laws of science to problems in hand, if pressed to extremes, shuts out consideration of the "unknown" factor entering into every problem of medicine. Finally, the spirit of research and investigation, excellent as it is in its proper place, is a dangerous thing when present in only a limited degree, just enough to disturb a practical mind and not enough to make a good investigator.

The whole situation may be summed up in the comprehensive statement that the laboratory represents the inductive viewpoint of medicine. Now, the inductive method, in any department of knowledge and work, is a most useful and valuable phase, if one constantly bears in mind its limitations and its dangers. However, induction never has created a single idea worth mentioning. It is not in the nature of induction to be creative. All creative movements have been deductive in their origin. The creators in science, big and little, have always been the men who, having marshalled and classified their facts, have said, "These facts do not account for the situation — there is something beyond them, to which they are mere contributors or from which they spring." The inductive aspect of things is, after all, a barren aspect. Induction is, in the end, merely a check upon deduction.

Our readers know that we have consistently and persistently advocated the utilization of the laboratory and its methods, both in education and in practice. Indeed, as we trust all of our readers also know, we are greatly interested in clinical laboratory work, and we strongly urge them to take the widest advantage of this aid at their command. However, we feel constrained to point out concerning the laboratory (as did a certain distinguished mathematician about mathematics) that you cannot get out of it any more than you put into it. It will give you the value of x, but it will not solve the problem in which x is a factor.

Laboratories do not furnish diagnoses and prognoses readymade. The laboratories can not replace the head-work of the doctor himself; on the contrary, in a certain sense, they tend to increase it. They furnish invaluable—one may even say, indispensable—data upon which to make a diagnosis or a prognosis, yet, it still remains for the physician to interpret these data and to work out the problem; and he who expects the laboratory to furnish him with coin-in-the-slot complete answers to his diagnostic questions is almost as hopeless in his relation to the laboratory as the one who does not have recourse to the laboratory at all.

The laboratory itself, if organized on that plan, and if fittingly equipped, can assist in this diagnostic phase, also, by suggesting interpretations of the findings. Nevertheless, even this will not do away with the necessity of the physician doing his own thinking.

GOOD WORK—KEEP IT UP

Dr. Charles F. Taylor, through his live publication, *The Medical World*, is putting up a great fight for the protection of the legitimate interests of the medical profession. If you are not reading *The World* these days, you are missing a good thing. I have just been perusing the May number, and it is filled with stuff that should stir the blood and rouse the fighting propensities of every doctor who has a real backbone. I wish Brother Taylor's editorial, "Your Rights Are Threatened," published on page 165 of that issue, could be brought to the attention of every physician in the United States.

Not the least interesting part of this editorial is another editorial, reprinted verbatim from the *N. A. R. D. Journal* of March 25, this being entitled, "Propagandic Work and the Dispensing Doctor." In this editorial, the editor of the *N.A.R.D. Journal* attempts to point out that, by eliminating the dispensing doctors, or, rather, by securing the enactment of laws that will prevent them from doing their own dispensing, the druggist can gain an average additional profit of several dollars a day.

As every reader of CLINICAL MEDICINE knows, we have no quarrel with druggists. We believe doctors and druggists should establish more friendly relationships, the basis being *service* to the patient, not *profit* for the man. Also, druggists should get the foolish notion out of their heads, that the tail is going to be permitted to wag the dog. The "dog" may begin to show its teeth, if these attacks continue.

Leading Articles

An Old Doctor's Life Story

An Autobiography

By Robert Gray, M. D., Pichucalco, Mexico

EDITORIAL NOTE.—This article is the fifth instalment of Doctor Gray's autobiography. Every physician should read this intimate record of the unfolding of an unusual life. Doctor Gray was born in the Old South, was educated in France under the old regime, fought through our Civil War on the Confederate side, and soon after its close plunged into the very depths of tropical Mexico, where he has spent the greater portion of his romantic and adventurous life. Now, at the age of eighty-five, he has given his story to the world through the pages of "Clinical Medicine."

[*Continued from page 249, May issue*]

LIKE a warning ghost, I stood in the dining-room, unexpected, while my father's family, my plighted Carrie, and some other visitors were at table at the Sunday dinner-hour. My sisters, as if by intuitive prescience, leaped from the table in a paroxysm of tears, while Carrie rose pale and silent, yet, mastering whatever unexpressed feelings mayhap had been rankling in her bosom; but my mother rose with dignified composure, the deep imprint of the resignation of settled melancholy legibly clear in her regal features. I was asked no questions as to the why or the wherefore of my coming. My mere presence there answered all.

I had heard, before reaching the house, that my father had organized a company of cavalry; the same news that came to me having reached him three days earlier.

It runs radically contrary to the grain of my inclination to touch upon any feature of the war scenes that are about to occupy some pages; nevertheless, they are indispensable, being the corner-stone and foundation of my tropical involvement. Moreover, they seem apt and pertinent at this darkly portentous hour, when any day may shadow forth the repetition of such mournful despair in the fair land of my birth, while her sons, born long since the day I mingled in her brooding wo, are rallying to wage war on poor impoverished Mexico, whose people are proud and patriotic, but almost helplessly exhausted by internal strife.

The Mexican Problem

It is not perilous work for principleless newspapers to goad the government into war, and then for the silvery-tongued orators to inflame impulsive youth to enlist and go away to die in some marsh or ravine or forest thicket. But the life-long sorrow that wings away from fields of victory or of defeat, to perch in desolate homes forevermore—who, who may console the bleeding hearts pining there? Not the flattering minstrel's heroic lay nor the polished sheen of marble monument can assuage the consuming grief of the fondly yearning mother-bosom. And, note well, in a war in which bleeding Mexico is vanquished, there will be as many mourners at its end as there were in the North and the South when the Civil War was ended.

Up to this date—June 27, 1914—more than 200,000 Mexicans have been slain by Mexicans, in their insensate fratricidal conflict, and more than half of their fair land has been laid waste. The tidings of the taking of Vera Cruz made my blood run cold and curdle in my veins, under the conviction that the deadly struggle was inevitable; and even yet I am haunted by the fear that the peace negotiations at Niagara may terminate in some perilous disappointment and will call the hopeful youths of the United States to the shambles of slaughter; for, the miasmatic fumes of these torrid wilds hold in reserve more deadly dangers than do all the shell and shot that the poor Mexicans will be able to employ. There are dangerous insurgent or bandit bands doing deadly destructive work near where I write, murdering and burning, whom the pursuing troops have been unable to bring to bay for many weeks; and they cause much justified alarm among the defenseless populace.

And such will be the warfare against Americans, should they penetrate into the

interior: perpetual annoyance to their communications and while on the march, while unavoidable death is lurking in the water, the air, and the ground, slaying the invaders without a bullet scratch to vary the monotony. And it is startling to contemplate what long and trying years this immolation of Americans will drag along, should the Mexican people resolve to resist to the point of extermination, as they threaten. And this seems very probable to one familiar with the obstinacy of the small bands operating near here, which, though apparently destroyed and quiescent for a long period, suddenly reappear freshly recruited and ready for more mischief. The percentage of rebels under arms in this belt, compared with the troops pursuing them, is less than what the Mexicans can put against all the Americans that possibly may come against them, should the insurrectors prove patriotic.

These reflections on the present and the strongly probable impending events have been dovetailed in here, getting ahead of my story some fifty-four years of time, in order to serve as a comparative counterpart of what may be at hand should tranquilizing admonitions be disregarded. The mournful horrors of our civil war are measurably forgotten or unknown by the young men of America; and those are doleful memories to treasure, which one fain would forget, save to serve as warnings against rashness that might precipitate like disastrous consequences. Now to take up the thread again.

Marriage Delayed

I passed as little time at home as I could under plausible pretenses, and still less with Carrie. To Carrie I said, in our first interview, that it seemed to me that the celebration of our nuptials was at an end, and she readily agreed that they better were held in abeyance till the threatening storm was over. I told her I was not going into the armed service, but would be a volunteer first-aid surgeon in the rear shadow of the firing-line; not enlisted in any government service, nor on duty, save in time of battle or for such time as I might be useful to wounded men who could not be promptly moved to distant hospitals. She replied that then it was her determination to spend her time and money in administering to the wants of the families of poor men who might be absent in the army.

By my father as well as others, I was urged to raise a regiment and go to the front and win laurels. I told my father that West Point, which he refused me, would have made such destiny my proper ambition, but that Paris had taught me far different lessons; that any drop of blood shed by me in that miserable brother-murdering would be spilt in striving to save life, by treating the wounded in the best possible manner; that my part with the murderous crew was not to shed blood. And I remained inflexible to the last day of that savage butchery.

I spent much of my time, when at home, in the slave-quarter, talking to negroes who had been my playmates in my childhood days. I admonished them to stay at home and be faithful, whatever might happen; telling them that, if they sided with the Yankees, they would be made soldiers, whom we should have to kill.

The scenes of those dark and ominous days are not mere specters of night mare dreams to me, even at this late day. I have tried to forget them, having at times banished them entirely from mind for months and months; still, ever and anon they would come softly stealing back upon me, even as they are teeming tonight, over the lapse of so many long and trying years.

The Days Before the Parting

There was no check nor stay to the violent fire that we fanned into a raging flame, coolly conscious that there would spring from that rash, intrepid act immortal fame with empire intactly inviolate, or else mourning the loss of our magic dower, our beloved Southland shattered beyond the power of redemption. We recklessly cast the die, and valorously shut our eyes to the possible dire consequences.

I have witnessed many sad and mournful scenes, as they were interspersed all along among the vicissitudes of my long and checkered career; but none to compare with those early partings on the threshold of the battle-storm, as the men tore themselves away from the farewell embrace and the last long, lingering kiss of love, to return—when? A question even conjecture shuddered to ask.

And the day came when the ordeal was mine. There were my adored mother, my good old grandmothers, my darling sisters, and the queenly Carrie—the latter mute in the throes of her nameless wo—and my silent dry-eyed sire (the chief of light-horse cavalry), who was leaving at the same time, to face destinies of dark antithesis.

Then and there began my strenuous pilgrimage in the medical realm, whose grim and ghastly aspect startles me even now as I write by the light of the midnight lamp, as

if I gazed upon a procession of infernal fiends; so terrible is the backward track along which I have come down this horrible vale of years.

The Wreck of Battle Storms

Intense solicitude at home and interest abroad centered in a sequestrated rural retreat of Prince William County, Virginia, in the early days of July, 1861, where there meandered a sluggish little stream—Bull Run—and nestled an insignificant railroad station—Manassas Junction. There was concentrated at this point the main body of Confederate troops, while the Federal army was around and in front of Arlington Heights, across the Potomac from Washington. This army had been enlisted for three months, and then was in the second half of the last month of that term; while the papers of the North joined in harmonious reverberation of "On to Richmond!"

I was domiciled in a small farm-house, off the road a little distance, between Sudley Ford, on Bull Run, and Manassas. I had secured a young Frenchman from Paris, a graduate in surgery, to assist me in major operations.

On the 16th of July, we knew the Federal army was advancing; and on the 17th we galloped down to Blackburn's Ford, in response to sharp firing reaching our ears. But, it was all over ere we arrived, save for a few parting salutes of cannon shot, with everyone hurt already removed from the neighborhood of the scene. Hence, we rode back, and passed three days in comparative quietude.

But, the immortal Sabbath of July 21 was rudely profaned ere the twilight dimmed the soft brilliancy of the morning star, and while the day still was new and young the intonations of the cannonade were reverberating in the dome of the capitol at Washington and far back among the crags and ravines of the blue misty mountains; while the telegraph was ticking the startling tidings far and wide over the broad distracted land, the longest hours of the most anxious day that up to then ever had dawned over the United States passing like slow ages of torture to many people everywhere.

My First War Surgery

We had plenty to do ere the day was half spent. We found a genial old surgeon and a medical student at a little spring in a deep ravine, and here the ambulance-corps was to direct the wounded who could walk and bring the helpless ones on stretchers. The surgeon had been through the Mexican war and knew what he was about. I imagined I would be rusty, as I had done but little surgery on the plantation; yet, all my scholastic practice came back like an inspiration at the first serious case that fell to my lot.

The old surgeon was engaged in the amputation of a thigh, when one came to me whose foot had to be amputated just above the ankle; and this I finished ere the other was done. Then a man with a fearfully mangled thigh was brought to me, requiring a high amputation and quick, dexterous work; for, the man was in a most critical condition, and I do not think I ever did a more admirable piece of work or one more expeditiously in all my life.

My companion finished his task when I was just fairly beginning; and he stood watching me in speechless, open-eyed wonderment till I was done, when he asked me in what war I had gained my practice. He was inclined to be incredulous when I assured him it was my first serious operation since I left school; but, when I further explained the method of my tuition, he said all surgical students should have the same practical lessons that enabled me to work so adroitly. He added that it would have taken him double the time I occupied in performing the operation. Continuing, he said that minutes really were ages upon which life was dependent in such cases; that he was assistant for a long time in Mexico ere he would have dared to attempt such an operation, after his graduation and some hospital study; and that his assistant nearly swooned when the first blood spurted on his hand from the incision.

The fighting near Stone Bridge had slackened in the meanwhile; so we had little more to do till in the afternoon, when a rush began that lasted all night. All this time a drenching rain was falling, and all next day, while many of the poor, helpless Federal boys who were left behind unavoidably passed the night where they fell. I felt no rancor for those poor fellows, many of whom gave me addresses and implored me to write home for them, should they die. We discovered that they had entertained a holy horror of us Southerners, convinced that we should massacre them. When, however, they met the unexpected warm-hearted surgical sympathy and kindness that dawned over them from tear-dimmed eyes, they supplicated us to send home remembrances; and this not from me alone, but from all the others who, from a sense of common human duty, were attending

them. Even our own not seriously wounded men divided their broth and coffee or whatever other eatables they chanced to have or get hold of with their disabled foemen.

At one time, in the afternoon, it seemed that we were defeated—and were, perhaps, but for the cool intrepidity of Jackson and the unwavering discipline of his sturdy Virginians, besides the timely arrival of Kirby Smith from Winchester. The Federal victory then telegraphed all over the North and its announcement in extra afternoon papers proved a deplorable burlesque, followed so soon by a defeat that developed into a rout.

I declined any surgical appointment, preferring to remain independent, without pay, bearing my own expenses and those of my young Frenchman and our servant, a bright young slave from the plantation of my father. The medical supplies of the South were so wretched and the camp practice so crude that I shrank from any participation in medical work, save amid the wreckage of the battle-storms and in a purely surgical capacity.

Not very long after the July scenes were enacted on the tragical stage, my father perished in some one of the ambuscading campaigns between General Lee and McClellan in West Virginia, somewhere around the north base of Sewell Mountain, where most, if not all, of his men were killed or captured. I never learned where or how, but for many months supposed he was a prisoner.

Working Again at Shiloh

I tired of the inactivity and went southward just before the Confederates abandoned their winter quarters at Manassas; and I did my next serious work in a ravine, near Shiloh church, on the 6th and 7th of April, 1862. And there was enough to do to have satiated a fiend. The number of wounded was out of all proportion to our surgical capacity. Most of the surgeons had had very little practical experience, and they left with their retreating commands early the second day; the wounded, unable to travel, being left behind. I remained, not really knowing what had happened, till the Federals were between me and the defeated Confederates.

As I was not enlisted, I had little fear of not securing a parole; in fact, I gave the question little thought. I had treated a number of wounded Federals the day before; men who were captured, but were left behind when the Confederates fled. One colonel, who had required an amputation at the articulation of a thumb, was so grateful for the prompt care received, that he at once interceded for me, and quickly secured permission for me to continue assisting my own wounded, with the assurance that I should be unconditionally released, save the provision that I do not bear arms when my work were done. I remained ten days, and was magnificently treated by the enemy.

On the morning of the 27th of June I was, up to the front behind the Confederate line of battle attacking the Federals under Porter, near Gaines Mills, we having passed over a broad belt of the Federal encampment of the day before, whence they had retired to the new position. Time and again the most furious Confederate charges were repulsed, all day long till darkness set in, when the Federal center broke and the whole front retired, routed, leaving behind a horrid spectacle of wounded, who largely still lay on the ground where they fell, hopelessly abandoned; for, we ourselves had some 7000 wounded for the day, which precluded the slightest attention to wounded Federals. Hence, McClellan was advised, and he sent a large corps of surgeons to assist the despairing sufferers.

It was necessary for us to remain at our posts throughout the night and till late in the afternoon of the next day, in order to clean up the horrible scene on our side and to dispatch the poor victims to the hospitals in Richmond.

Just before night, I and my young Frenchman walked over to where the Federal surgeons were at work in the long corridor of a big two-winged old mansion and under the shade of great trees, their wounded, when brought in, being laid under the trees, covering several acres of ground. Most of the men had fractured lower limbs, which rendered them incapable of leaving the field. As the limbs were severed, they were flung into a pile from all sides, thus a horrid mountain of them (I estimated them at 1000) being accumulated. And still they came, augmenting the ghastly heap.

One Amputation

I was attracted to a pallid, emaciated youth, not above seventeen years, whom a brusque old German surgeon just was placing on his plank. The limb was bared, the incisions made, and the arteries were taken up in scientific order, clearly demonstrating the artistic qualification of the operator. Then he seized the saw and began a fiddle-bow maneuver, the bone soon giving off a screeching as produced by a loose splinter on a dry fence-rail one might be trying to saw.

I turned blind and came near swooning, when my companion clutched my sleeve and said, "Let us leave this!" He, too, was pale as chalk.

How strange, after all the horrors we had passed and that even then loomed up around us on every hand and at every point of view, that such simple incident should have made the same unnerving impression upon both of us at the same moment; and my friend was familiar with the hospital horrors of Paris and of Shiloh, and had mingled in the most shocking wreckage a battle makes in quick flesh and seen the flow of blood for more than the past twenty-four hours.

My next serious experience was in front of Malvern Hill, where I watched the terrific play of rifle-cannon that General Lee brought to play upon the Federal position, with the object of breaking the morale of the fagged and dispirited troops, which his fine divisions, flushed with victory, were massing to charge. During this prelude to the fierce and furious slaughter about to follow, the surgeons could watch the fearful scene from a safe distance ere their trying task confronted them.

The dreadful charges and horrid slaughter soon began, repulse after repulse being the discouraging chagrin of the assaulting troops, till night and pitiless rain terminated the havoc. Our loss was fearful, probably double that of the enemy, entailing all-night work among the wounded. However, I myself was off duty, owing to a disabling though not dangerous flesh wound received just before the battle ceased.

I was back on the plains of Manassas on the 30th of August, in a ravine behind the position where Longstreet's corps went into battle, when it was my misfortune to have inflicted a more serious wound, in the afternoon, than was the one at Malvern Hill, and this kept me off duty till the battle of Chancellorsville, where I had a full share in the repairing of my mutilated comrades.

My Experience at Gettysburg

The next field of horrors at which I saw unrolled its murderous contingency was that of Gettysburg, on July 3, 1863. I occupied a position that afforded an unobstructed view of the dreadful artillery-duel with more than two hundred cannon, and also of the awful charge of Pickett over a valley, under cross artillery-fire and infantry-fire, and up a steep rocky hill, where the chivalrous Virginians withered in that infernal fire, till finally probably less than one out of ten returned. Our casualities were more than 25,000 men, while those of the Federals could, hardly, have been less. I remained at my post, aiding the mangled men, so horribly absorbed that I did not realize till next day that Lee had definitely retreated; and the Federal authority offered no objection to my working among my wounded countrymen, the northern surgeons having their hands and hearts full with their own. The burying of the dead was a ghastly task. There must have been fully 10,000, although there was no official counting, the estimates given out being less than that. Friends and foes were heaped promiscuously, one on top the other, as many as six and seven high, in some ravines and gullies.

The next day we knew that Vicksburg had surrendered 30,000 men and more than 200 guns—a loss to the Confederacy of some 60,000 men in four days, including casualities of July 1 and 2 in the neighborhood of Gettysburg. This sounded the death-knell of the aspirations and hopes of Dixie Land. I remained there till all my Confederate wounded were removed or dead; the deaths being many, partly from mortal hurts, others, the victims of loss of blood and whom timely attention might have saved, some having lain on the field till in the night of the next day after the battle, as was the fate also of some of the Federals.

One ghastly experience I recall was during the battle of the Wilderness, where great numbers, possibly several thousand, of dead and wounded of the two armies were burned in the forest fires resulting from exploding shells.

At Spottsylvania, the second day, I got me another wound, and this incapacitated me for service for several months. When, at last, I might have been useful again, there no longer were thousands upon thousands of wounded men, nor a lack of surgical aid. The long-drawn siege of Petersburg furnished its daily quota of casualities, but there was a superfluity of able military surgeons to care for the victims.

I wish I had my correspondence with Carrie or, rather, a few of her letters, to quote some passages; but I lost the last fragment some forty years ago. Carrie and I were reconciled to the ending that was to come, thoroughly satisfied, after Gettysburg, that ours was "The Lost Cause," and we were planning for the changed and unpropitious future, she being sanguine that we might rise again from the wreck of our inevitable ruin. The cheerful spirit of that woman would have lured a man from the deepest depths of the darkest despondency; and she

inspired me with a sense of resignation, where there was no visible shadow of hope.

The End Comes

When Lee was checkmated at Appomattox, I was in the front positions and narrowly escaped the advance division of the Federal cavalry that blocked his way and came between me and the army. Then came the surrender to Grant. As for me, the moment I knew that Lee had given up the hopeless struggle, I wended my way homeward. My young French assistant I had released months before that. My home had been a long time in the lines of the enemy; and I knew nothing more about it than that there had been widespread burning of houses; no tidings having come from there for a long time. Still, our plantation being situated on the far outskirt of the burned belt, I hoped that it had escaped.

I rode on and on, day after day, till one day, I was within twenty miles of it. It was a region where no one lived; but I had a feed of corn for my horse, and, so, resolved to rest till midnight, then start up and arrive at my destination in the early morning, since the road was good, although leading through a desolate pine-belt. I slept well on the pine-leaves, beside a little stream, and was jogging along again through the sand soon after midnight. I had never been back again, for I did not relish those parting-scenes; and it were sadder to return and then leave again than to stay away altogether. I was derelict in the matter of writing, even Carrie's letters often were a month unanswered, when, in fact, I had plenty of time to have written almost any day.

The heart naturally palpitates expectantly when nearing one's old cherished home under such circumstances; and so it was with me as I approached the long-unseen homestead and my loved ones, and the other one not far away.

(*To be continued.*)

Anemonin: The Active Principle of Pulsatilla

An Effective Remedy in Diseases of the Sex-Glands

By H. Hamilton Redfield, B. S., A. B., M. D., Chicago, Illinois

Formerly Professor of Therapeutics, Bennett Medical College, Medical Department of Loyola University

ANEMONIN is a volatile camphoraceous principle obtained from anemone pulsatilla and anemone pratensis. This principle is diuretic, diaphoretic, and emmenagog. Applied locally, it is an active irritant, giving rise to a tingling and burning sensation and producing vesicles and pustules. The application of the bruised fresh root has been reported to have caused gangrene.

Taken internally, anemonin produces symptoms quite similar to those from aconitine, namely, tingling, burning, and numbness of the tongue and lips.

In toxic doses, it causes nausea and vomiting, and also a slimy diarrhea and bloody urine. There is a marked inflammation of the mucous and synovial membranes, the myocardium is weakened, there is edema of the lungs, and hyperemia of the spinal and cerebral membranes.

It exerts a direct influence upon the brain and spinal cord, and toxic doses produce mental hebetude, mydriasis, and, in extreme instances, convulsions.

Its action upon the heart greatly resembles that of cactus, increasing the power of the cardiac muscle and improving the strength and rate of the pulse.

Therapeutics

Anemonin is indicated in patients who are indecisive and slow. As a rule, it seems best adapted to persons of the lymphatic diathesis; those having light hair, pale eyes, and very easily moved to tears or laughter. People of this type are constantly depressed, look sad, are always apprehensive and in dread of some terrible calamity or misfortune that will overtake them or their family. While outlining their case, they cry constantly. They are mild, gentle, and timid. They imagine that there is a constant change taking place in their condition, and not two attacks are exactly alike. The absence of thirst is marked. There is relief from motion and while in the open air, while all the symptoms are exaggerated by being in a warm, close room, after eating, and when at rest. The discharges are bland, and yellow or greenish. Circulation is sluggish and the patient complains of a constant chilly sensation. When pains occur, these are accompanied by the chilly sensa-

tion; they are not restricted to any one particular part, but constantly change about from one locality to another; they also vary in intensity, being severe at one moment and the next moment, mild.

Anemonin is of great service in headache located chiefly in the forehead, supraorbital region or in the temples. The pain is heavy, bursting, and throbbing in character, and generally results from overeating. There is a bad taste in the mouth. The pain in the head is intensified by mental exertion, eating or being in a warm, close room.

In patients who give a history of overindulgence in rich, fat foods or pastry, there are eructations of sour or bitter matter and they vomit acid or bitter fluid. In dyspepsia, when there is a constant stuffy or full feeling, also regurgitation of partly digested food, with digestion slow, a dead, heavy feeling in the epigastrium, and there is chilliness, thirst absent, and a constant sensation of nausea, the tongue bears a white coating, and headache is prominent.

It is an excellent remedy in cases of diarrhea that are worse at night. The stool consists of mucus or mucus and blood, and no two stools are alike; they are green, bilious, watery; this condition being brought on by overindulgence in rich foods or fats.

Of Great Value in Genital Troubles

In orchitis, anemonin is the remedy of first choice. There is great swelling of the testicles and spermatic cords, which are extremely painful to the touch; this condition being caused by cold, although in the majority of cases arising from suppressed gonorrhea. In such cases, it is more efficient if combined with aconitine and phytolaccoid.

It should be given consideration in cases of delayed and scanty menstruation. The patient constantly feels chilly, and there are bearingdown pains in the sacral region and abdomen; also slight nausea. All the symptoms are increased at night and on staying in a warm room, while relief is experienced by being in the open air

In dysmenorrhea, with the pains so violent in nature as to cause the patient to toss about in all directions anemonin is indicated; the blood in such cases is thick and black or pale and watery, and being in cold air makes the woman feel better.

In amenorrhea occurring in women who are pale, anemic, and chilly, of a tearful, yielding nature. Also in labor, when the woman suffers from spells of suffocation and must have the windows open.

Young anemic females having a tendency to emulate the example of Niobe and cry all the time, and who seek relief from an annoying leucorrhea, the discharge being thick, white and albuminous, find a comforter in anemonin.

In subacute bronchitis, when the cough is loose and there is a copious mucopurulent expectoration during the day, with tightness at night, anemonin is a sovereign remedy. These patients are anemic, there are nocturnal dyspneic paroxysms, and they feel worse in a close, warm room.

It is useful in phlebitis, following the administration of aconitine, when the limbs are pale-white in color and swollen, and the veins are hard, knotty, and intensely painful to the touch, while motion is impossible.

In rheumatism characterized by rapidly shifting pains. There is but little swelling, some redness, the part being cold, and there is a loss of function.

Psychologic Indications for Anemonin

Among the principles of Hahnemann, where the psychological phases of a case are given more attention than they are among the regulars, and the temperament and the individuality of the patient are considered of importance in the selection of a remedy, pulsatilla (anemonin) is especially given preference for patients who are slow or indecisive.

Blondes, they say, seem to be especially susceptible to the action of anemonin, this being referable, in all probability, more to the fact that blondes are more prone to be affected by the conditions in which anemonin is particularly efficacious than to any condition of the patient's complexion or individuality.

A Summary

Pathologic conditions that are subject to the beneficial influence of anemonin are, notably the following: (1) Epididymitis yields speedily to anemonin. (2) It has been found exceedingly useful in cases of whooping-cough. (3) All the eczematous forms of cutaneous diseases, indolent ulcers, and syphilitic eruptions call for anemonin. (4) In dyspepsia, when the tongue is coated white, with entire loss of taste, or there is a greasy feeling of the palate, besides nausea, flatulence, and heartburn, anemonin should be given consideration.

Specific Indications

Nervousness and fear of impending calamity, these accompanying amenorrhea,

dysmenorrhea or leucorrhea, and leucorrhea, with a thick white discharge, in anemic females.

Spermatorrhea, orchitis, scanty or tardy menses; sense of weakness in back or hips.

Headache of gastric origin; conditions increased by heat and relieved by being in the open air.

Discharges from mucous membranes are yellow, purulent in character, sometimes yellowish-green. Coating of tongue yellow and slimy. Pressure and feeling of fullness in the stomach. Shifting, and wandering rheumatic pains. Pains in the limbs, worse at night and from warmth, relieved by cold or being in the open air.

The Letters of Doctor Leonidas Playfair

Addressed to a Young Man Just Entering Practice

By A. H. P. Leuf, M. D., Philadelphia, Pennsylvania

EDITORIAL NOTE. The difficulties of the young doctor! How many they are and how mountain-like they seem to the youngster; and how small and inconsequential they seem to us older fellows compared with the burdens we are bearing. However, let us give the boy a lift. This month Doctor Playfair tries to help settle the problem of "Prescribing versus Dispensing." We may not agree with him—but let us give him a fair hearing.

MY DEAR FRIEND: In reply to your recent letter asking further advice upon several subjects connected with your entrance upon the medical profession, and which you must have sent before receiving mine concerning office hours, I think that one of the most important for immediate consideration is as to whether it is better to prescribe your remedies for the apothecary to dispense, or whether you should supply them to the patient yourself.

The old custom of writing prescriptions could not have come into existence and been universally practiced without the best of reasons—the most effective of causes, namely, necessity and expediency. Nor could any other impulse and power have so largely displaced this ancient usage than these came two causes—necessity and expediency.

To determine the question as to which of the two is preferable, it is well to inquire, first of all, more closely into the reasons for their being.

I shall not attempt an exhaustive study of this question, for that would be a needless sacrifice of time—waste—but shall consider only those that are very evident, and about which there ought to be no difference of opinion. Thus, population was less dense in former times, people lived more remote, medical men were less numerous, and the proportion of patients to each physician was, obviously, much greater than it is at present. This necessitated the traversing of longer distances by the doctor, consuming more time than now in visiting and the advising of the sick, and thereby leaving less opportunity for rest and study after attention to outside calls and office work. You see that I say nothing of time for recreation, and this only because physicians, as a class, unfortunately indulge very little in needful relaxation. Therefore, they had less time in olden days for dispensing their remedies than we now have, all other things being equal.

Then, added to the foregoing, is a fourth fact, namely, that pharmacy was as yet quite crude. Only the simplest preparations of whole drugs were used. Active principles or constituents were unknown—unsuspected. Medicines were bulky. For instance, cinchona bark was taken in handful doses for intermittent fever. Now it is necessary to swallow only a few small tasteless or even sugar- or chocolate-coated pills or tablets. Drugs had to be gathered and suitably prepared in proper season at the cost of much time and labor; too much, by far, for the limited time of an active physician. There were no large pharmaceutic manufacturing houses selling reliable standard drugs in neat and convenient packages at reasonable rates, the newest and highly specialized alkaloidal granules.

Should the doctor, nevertheless, have attempted the work of the pharmacist, it would have required no little capital for him to accumulate and prepare his stock, and much extra room would have been needed in which to store it. Additional time would have been consumed in dispensing it to patients. The purchase of drugs of the right quality and at the proper time would have been another severe tax upon the doctor, incompatible with the proper practice and necessary emoluments of his profession.

From these few reasons, alone, it is evident that the physician of the olden days could not do justice to his patients if he essayed to be his own pharmacist. To all this you may add the additional fact that collections for medical services rendered in those days were not made as now. Then the pay was a honorarium—what the patient offered—presumably what his circumstances equitably enabled him to give according to the worth of the services rendered. Many honorariums consisted merely in profuse assurances of profound gratitude. Some money payments were cash, and some were not. The doctor's pay in those days was not nearly as good as it is now, despite present overcrowding of the profession.

How the Change Came

Within recent years, on the other hand, pharmacy has been revolutionized. First came the discovery and abstraction of active principles, together with their smaller bulk and greater accuracy of dose and uniformity of action. This more recently was followed by the use of coated pills, capsules, compressed tablets, tablet triturates, granules, and standardization of drugs. Then there rapidly followed the long and seemingly inexhaustible list of coal-tar products for the relief of pain and the reduction of fever.

Add to this the participation of manufacturing pharmacy in the present great economic trend toward centralization, and there come to mind the great drug firms having plants and equipments costing millions of dollars, and including, besides chemic, also biologic, physiologic, pathologic, and histologic laboratories for the further analysis of animal, plant, and mineral substances, for the abstraction and transforming of living products, and for the testing of all upon living animals. Even free dispensaries may be included as parts of these plants. In fact, the great dispensaries and hospitals of the land are tributary to them because of the donation to them, in any desired quantity, of new remedies of special promise for ample trial. Even the whole medical profession now largely acts as a multiple private experimenter in the testing of new remedies for these enormous manufacturing concerns. That this concentration and cooperation necessarily signifies enormously reduced prices and greater uniformity of goods, must only be suggested to be recognized.

The effect of all this is that drugs are more reliable than they were; they are infinitely more compact and, therefore, portable; their price has been reduced to a fraction of their previous cost. It is easier and cheaper to dispense one's own remedies now than it was many years ago. That they are more reliable, would be supposed, and is manifest to anyone using those made by great houses under the most approved methods, compared with the inadequate and disappointing substitutes often put up as "as good" by the small-trade druggist.

The Homeopathist's Laudable Example

I have briefly shown that the dispensing of one's own drugs was quite impracticable and undesirable years back, and that it is much more feasible now than it was then. However, there are other important reasons for this change; but, before debating these, I wish to call your attention to the rapid progress in practice building by Homeopaths.

As a rule, the Homeopathist develops a practice quicker than does the graduate of the regular, rational or unrestricted school. For this there are two major reasons, and incidentally several minor ones. For one, the Homeopathist always gives agreeable medicine. Thus, children do not dread him, women do not oppose him, and men are not obliged to pretend indifference to a nauseating dose, very often needlessly so. He does not interfere with the *vis medicatrix naturæ*. He never poisons a patient with an overdose.

Most diseases are self-limited, are not dangerous, while suffering may be lessened by suggestion. The mass of homeopathically treated patients are benefited by this masked, waking hypnotism—suggestive therapeutics. Some die because of it, by reason of being therapeutically neglected. And, yet, the question may be asked, "If that be so, is not more good done, by this negative way, than injury, because of neglect?" The answer, strangely enough, would seem to come appropriately from the pen of a great medical wit and teacher of anatomy who was not a homeopath—I mean Dr. Oliver Wendell Holmes—who once said that it would be a good thing for humanity if all the medicines in the world were dumped into the sea, only to add the regretful after-thought, that that, though, would be a bad thing for the fishes.

There is point to these sayings, not because they are altogether true, but because they are largely so. Perfection should ever be our aim, even though unattainable. Whatever diverts us from this goal should be eliminated, and all that tends toward it embraced and enlarged. Thus, homeopathic practice taught us to give medicines in as unobjectionable a

form as it can be done. But there are patients, many of them—and these by no means exclusively limited to the ignorant—who can not credit potency in a remedial agent unless it offends at least one, but, better still, several of the senses. These may be said to have atavistic leanings toward their ancestry of the middle ages, when doctors gave variously prepared reptiles and insects, conjoined with horrible exorcisms, for the cure of disease and the expulsion of evil spirits.

The other major reason for the Homeopathist's rapid development of a practice is, his keeping his knowledge of his remedies to himself. When a prescription is handed to a patient, you part with your knowledge of how to cure the symptoms for the relief of which you are consulted. This patient may —and he often does—yield this prescription to the pharmacist. He can, and usually does, renew the medicine on this one order of the doctor as often as he is willing to pay the dispenser for it; and it remains good for himself or his friends ever afterward. The druggist always gets his profit; the doctor, though, is—foolish.

The homeopathist makes no such blunder, except when he is silly enough to imitate his unrestricted professional brother in also writing a prescription, say, for belladonna 6*x*, hepar 10*x*, or nux 3*x*. Some do this. And with what result? Of course, ultimate injury to the patient, because of neglect through self-prescribing of something that is nothing, and loss of income to the prescriber; only the dispenser having added profits. But the rule with the Homeopathist is, to give the medicine. When it is used up, the patient returns to him for additional advice, instead of to the druggist for more—milk-sugar. If benefited, that patient can do nothing else for a suffering friend than to send him to the same doctor for advice; which is better in every way than sending him to the druggist for the same medicine.

Do not suppose that I am actuated entirely by selfish or pecuniary motives, for I am not; and, yet, I am free to say that I have a perfect right to be so influenced, although in this instance the patient's and physician's interests are alike best subserved by the practice recommended. Thus, one of the worst evils that can befall an individual is, to be making medical introspections of himself, trying to diagnose his own case, becoming a morbid nuisance to all with whom he comes in contact, and eventually substituting a highly undesirable morbid mental condition for some simple physical disturbance. Should it not go thus far, the habit grows, and, while no one might object to such a fool hurrying himself to his grave by his lack of sense, the trouble is that he extends his meddlesomeness to helpless children. We have all seen his pernicious work and have grieved and waxed warm over it, but to very little purpose.

Those of us who give prescriptions and otherwise proffer incomprehensible explanations of our work are primarily the real culprits in this matter. Try to realize this at the beginning of your career and act accordingly, if you wish to avoid much that is disagreeable to yourself as well as injurious to those who entrust their physical wellbeing to your care.

Pertinent Reasons for Self-Dispensing

Very many other reasons could be assigned in favor of the doctor dispensing his own medicines, but those given will, I trust, suffice. For instance, by giving your own medicines, you are certain that your patient is getting what you want him to have. The druggist is liable to substitute something else, either because he has not at hand what you order, or because he can use something similar that yields a greater profit.

Two prescriptions will cost the patient about as much as the charge of an office call. Most patients have very limited means. The pharmacist insists upon cash for his goods, and gets it. Ergo, the doctor does not get his fee at the time, but must wait for it. It is a deplorable fact that he ever after waits, and continues waiting for half of these fees. Even his heirs wait for them, also, but never get them. The pharmacist gets his fee, too, because of the psychologic fact that the patient's mind sees tangible material evidence of getting something for his money. He cannot see that the doctor's advice in his particular case has cost a cent, but he unconsciously recognizes that the medicine handed to him by the pharmacist represents an outlay of money. His mind grasps the one very self-evident truth, but balks at the other. So it is that, when the doctor supplies the medicine together with his advice, he has a more tangible claim upon what is in the patient's pocketbook, and consequently is more likely to get his fee, especially since none will have to be given to the pharmacist for prescriptions.

Night- and emergency-calls require prompt medication. It is absurd to write a prescription, to be filled at a pharmacy, in the dead of night, thereby necessitating a repetition of the night-call at the drugstore. In

my earlier days of practice, I also wrote prescriptions, and carried no drug but a morphine solution (Magendie's). This, with a pencil and prescription-pad, was my armamentarium! It soon became my custom then to tell the messenger to call up the pharmacist on the way back, so that he would be ready to compound my prescription with least delay. Is it any wonder that Homeopathists grew rapidly into practice against such competition?

The same argument that holds good for carrying more remedies than I did at night in that long ago applies with equal force to practice at all times. It is the physician's business to be as ready as he can to treat his patient promptly with reliable drugs. To do this, he must carry those medicines with him that are most necessary for immediate use, and also keep a suitable assortment at his office at all times.

Having settled, presumably with satisfaction to yourself, that it is much better for you and your patients that you dispense your own medicines, I will take up the matter of the best way in which this should be done.

Best Way in Which to Carry Medicines

Drugs come in the form of liquids, powder, pills, granules, compressed tablets, and tablet-triturates. You may have to make use of all these. As a general rule, the liquids are the cheaper, while the pills, tablets, and granules are the more convenient. The last are the most specific and compact. Assayed or tested fluid extracts are the most serviceable of the liquids because uniform and of definite strength and because they average greater in strength (effectiveness) per ounce for the money-cost. But fluid extracts are not always desirable or attainable. Thus, I use the tincture of aconite and the fluid extract of colchicum.

You should avoid buying, or at least dispensing, remedies in a form known to patients. For instance, people are all acquainted with the gelatine-coated oval-shaped 2-grain quinine pills. Never dispense these or any looking like them. While often you may do so safely, there are many times when it will be your undoing. If you give quinine this way, your patient will know it; if you do not, but give him such pills, he will think them quinine, for his experience makes him associate quinine with that form and kind of pill. For the same reason, do not give a compound cathartic pill black, glossy or white-coated. It is better to give it as a compressed tablet, chocolate-covered or not. Also bear in mind that there are many persons who look upon all pills, tablets or granules as intended to "open the bowel." Watch for this and correct such erroneous impression

You will be obliged to have some kind of receptacle in which to dispense your medicines. Bottles are needed for the liquids, and are most desirable for deliquescent drugs. Tablets of nux vomica put up with licorice will get moist, sticky, and run together in hot weather, when they are kept in paper or boxes, but remain perfectly dry in corked bottles. The same is true of brown-mixture tablets, also of those of extract of cascara sagrada. Others rapidly absorb moisture from the air, such as the bromide or iodide of potassium. I usually limit the supply to short 1- and 2-dram homeopathic vials.

For powders, tablets, pills or any form of dry medicines, I use small envelopes, a little less than 2×3 inches. This satisfies my needs, more especially since I am accustomed to them. Some physicians use cartons, others prefer small round or square boxes.

I enclose a sample of the labels I put upon the bottles. You see that each contains my name, address, and office hours. I also have a printed form with blank lines. These are self-explanatory. It is best to adopt that form that best suits your own ideas, though your card should appear on all. The bottle-label should be gummed. And, yet, it is an open question with me whether or not it is of much advantage to have your "card" on your medicine-containers, for I find that most patients do not notice anything upon the label except the instructions. It is best, however, to observe the rule, as the cost is trifling.

As you are well aware, there are cases that are best left to nature. Here you should use suggestive therapeutics. These people need no medicine To tell them so is, to do them no good, and will drive them to someone else; thus not only injuring yourself but possibly letting them drift to someone, unscrupulous or incompetent, who will mulct and injure them. These patients require the use of the placebo. It is desirable that something of this kind should be on hand in variety, so that the supposed remedy may be changed to meet the psychologic demands of the patient. For this reason, blank tablets, differently colored, are sold at a reasonable price, or you can have something of your own devising and less costly always ready at hand.

(To be continued.)

A Problem in Digestion

By William F. Waugh, A. M., M. D., Chicago, Illinois

A LADY in her thirties, married happily, in excellent health, except that she suffers from gastric troubles of indefinite nature, informs me that she dislikes oysters and salt and smoked fish; also that she believes lemons, stewed tomatoes, fresh pork, grape-juice, and pineapple disagree with her. Unlike most women, she does not suffer from constipation.

Our likes, and especially our dislikes, as to various articles of food are largely the result of habit. Few persons care for strange and unusual foods the first time they taste them. In the tropics, there is a maxim that one must eat any new food three times before deciding whether he likes it. Still, sometimes the dislike for a food is owing to a difficulty in digesting it.

Many persons find salt mackerel distasteful: the fat is liable to disagree, and an unpleasant taste returns to the mouth after eating this fish. The same is true as to smoked fish. Scarcely anybody cares for oysters the first time he tastes them. There is nothing significant about the lady's distaste for these articles.

Since the citric acid of lemons and the oxalic acid of tomatoes seem to disagree with her, it might be thought that she has hyperacidity, but the laboratory tests fail to show this; also, she has no disability of digestion as regards pickles or fresh fruits. Fresh pork may disagree, as she asserts, but she can eat cheese, beans, peas, ham, bacon; besides, the cruder vegetables, such as squash, carrots, and onions, fats and oils, starches, and sweets.

There is no evidence here of any form of indigestion; the lady's stomach and bowels are normal and capable of functioning normally. But they don't. We must look to the psychic realm for an explanation.

The woman is married, but childless. Her husband goes to a neighboring town to his office in the early morning, and she is alone until late evening. They are not rich, and both have imbibed the current notions about the wisdom of curtailing food and eating moderately. They have drawn their diet down until a trifle seems to suffice; and an appetite would scare either. Besides, they are early and enthusiastic devotees of a cult that teaches them that, if they say they have dined, the needs of the system are as well supplied as if a real dinner lined their stomachs. Under these conditions, the power of the digestive system is being impaired, and already these undefined and scarcely describable discomforts are telling the story of a deficient nutritive supply to the vital organs.

Just here a new peril is encountered. A friend, correctly diagnosing the need of more nourishment, most unskilfully meets it by advising the two to take sherry and raw eggs. They do so and feel that immediate benefit that is to be expected. Result: the alcohol devil is introduced into the household under the guise of an innocent and helpful friend.

Very carefully and circumspectly the case is explained, the temporary improvement from wine and the certain injury to the digestion to follow are made plain, without rant or preaching. The most difficult as well as the most imperative duty in such cases is the psychic management.

The lady was directed to restore her failing digestion by means of exercise. She was told to eat at every meal a morsel of some one of the foods she disliked or that disagreed; limiting the quantity to what would not disagree. If she could not take a teaspoonful of lemon-juice without suffering, she was to take ten drops or five drops, but to take some of it every day, increasing the amounts as she learned to manage it without difficulty. So as to all the other articles in the list—she was to train her palate to like them and her stomach to digest them.

The wine-and-egg was replaced by malted milk with the egg shaken into it; a most palatable and quickly utilized food. This was directed to be taken in the middle of the fore- and the afternoon, and again at bedtime.

The exact quantity of each food taken was laid down with care; and the lady found considerable time taken up with weighings and measurements, which gave her needed occupation. The use of a variety of foods insured a larger aggregate supply.

Immediate benefit followed; the strength increased and the appetite grew as the stomach was given more to do and was supplied with more and richer blood for its use and its nutrition. The dislikes moderated, the

digestive powers extended to the erstwhile taboo articles—and, yet, the main trouble had not been touched.

The remedy was found at a city hospital—a boy baby, whose mother could not care for him. He was adopted. Henceforth the lady had no time to waste imagining troubles for herself. Her life was filled and rounded as only a baby can, and in the cares and joys of motherhood, even though vicarious, her own ailments disappeared.

What is there in this simple case to merit reporting? Little or nothing, perhaps; only that a serious digestive disease was taken in the early stages and cured before it became incurable, and the social conditions back of it were recognized and remedied. Possibly it might have been better to wait until the disease had developed and the array of gastric paraphernalia and manipulations devised by Turck and others became necessary. But I have described it as an instance of the work cut out for the doctor who undertakes to follow the plan I have suggested, to be the family advisor and prevent disease. Taken in their incipiency, many of the maladies encountered are easily stopped; let them develop, and they are like a conflagration.

Unshackling the Insane

By Edwin F. Bowers, M. D., New York City

EDITORIAL NOTE.—This is not a "scientific" article, meaning that it is not a dry-as-dust discussion couched in the abstruse language of science. It is a popular article—one that any intelligent man can understand. More important, it is an appeal for good sense and human sympathy in dealing with a class of unfortunates whom we understand too little.

A SMALL engine, to which was attached a solitary baggage-car, tooted a sharp warning and, with a clatter and a shrill screech of the brakes, came to a standstill before the station of Bedburg, Rhenish Prussia. Immediately it was surrounded by a swarm of workmen, who proceeded to unload bricks, lumber, window-frames, and other building-material, together with barrows and tools of various kind. These they trundled and drayed to a two-story brick and frame building in process of construction—one of many that occupied a considerable area of the little town.

Commonplace enough; hardly of sufficient importance to warrant a second glance—excepting that engine-driver, trainmen, and the sturdy crew of laborers were lunatics. That is, we, here, should call them "lunatics." Over there, they were referred to as "patients." For, in Bedburg those people are not "crazy"; the word *verrueckt* never is heard; they merely are "sick." And, they are not "confined," they are "treated." Those who are not homicidal or acutely maniacal (that large body of the mentally unfit who merely are victims of delusions or hallucinations, paresis, dementia præcox, alcoholism or melancholia) are accorded as much freedom as the out-patients in an ordinary hospital.

Simply because they are ill mentally, instead of physically, is not considered sufficient reason for treating them as convicts. The padded cell, the manacles, the straightjacket, the brutal repression by brutal guards have been replaced by the application of the Golden Rule.

The German Way of Restoring the Mentally Sick

To help bring about a return to sanity, these individuals are treated as though they were sane. For the German doctors have proved by experience that the function of an insane-asylum is to treat and cure patients; not merely to provide a secure place for their confinement.

This is in decided contrast to the methods employed in most of the modern European institutions, as well as in many of our own land. The "trust him" practices of "Daddy" Fuller, Judge Ben Lindsley, Sheriff Frank Tracy, and Governor West again have been vindicated. They have been shown to apply also to those in whom the white light of reason no longer burns clear and bright; to those mental derelicts who are drifting without rudder or compass on the uncharted seas of brain-incompetency.

At Bedburg, wholesome out-of-doors occupation, without restraint of any kind, takes the place of the padded cell and the straightjacket. It would be easy for any of the inmates to escape. No guards are there to prevent them. But, so comfortable are they that "freedom" consists in coming "home" regularly to wholesome meals and their own

quiet beds and nightly hanging their hats upon the same hook.

The Prussian alienists are translating Horace into everyday experience: *Mens sana in corpore sano*—a sound mind in a sound body—has, to them a tangible significance. Blue sky, bright sunlight, pure air, the odor of fresh loam, and the wellbeing that comes from working with growing things and from contact with the magnetically charged earth, all these are essentials of the "course." Upon these they place their greatest reliance in bringing balm to hurt minds.

As an essential part of the "cure," this home for the mentally unbalanced operates a model farm and raises all the requisite vegetables, fruits, and garden-stuff. A complete dairy and creamery is run by the women inmates, who also do all the kitchenwork of the institution. They have their own ice-plant, bakeries, water-works, tailoring- and dress-making-establishments, workshop, slaughter-house, and laundry. All the work is done by patients, under competent supervision.

These shops differ from most others, in that all work is voluntary. Any workman may "knock off and call it a day" whenever he or she feels like quitting. Thus, they enjoy some advantages that are not vouchsafed to their sane brothers and sisters "on the outside."

Every reasonable opportunity for healthful and cheering amusement also is afforded. Games of every kind are played, and among the 2500 "residents" are many who excel in even such difficult games as chess or skat. Anyone familiar with the latter complicated forms of recreation will appreciate their value for mental discipline.

Both during work and play, the patients are under constant observation for the discovery of changes in their symptoms in the progress of their varied disorders. Careful records are kept, and are at the disposal of visiting alienists, and every possible effort is made to obtain the best and most authoritative advice.

Within the last few years this method has yielded such excellent results that many of the patients who, at their arrival, were "full of sound and fury," can be discharged after but a few months' treatment. The restorative influences of unlimited fresh air, good food, regular habits, and unremitting attention to the physical by some of the world's most famous psychiatrists are working wonders in knitting together the threads of the raveled mentality of these unfortunate people.

In Gheel, Belgium, before war rode roughshod over it, there was another institution of the same general character as the one located at Bedburg. Here, the *malades* (patients) were housed in a colony, consisting of groups of cottages, each of which sheltered not more than three occupants. The latter were permitted absolute freedom—even more marked than at Bedburg. They were encountered everywhere in the little town. If during conversation they refrained from parading their particular hobbies, one often had difficulty in distinguishing between them and the town-residents. Confinement was resorted to only as a last extremity. It was asserted that, on an average, rarely more than 60 out of nearly 2000 ever were restrained at any time. Fully 20 percent of the patients admitted to this colony (being twice as many as in any other institution of its kind in existence) yearly were discharged as cured.

An American Experiment

In our own country, Doctor Kelsey, professor of sociology at the University of Pennsylvania, has pointed out fundamental fallacies in methods of asylum treatment. So, when Blankenburg was mayor of Philadelphia, an investigation of the municipal hospital for the insane was instituted, and it developed that the patients there were herded together like cattle and that their mental sickness was being aggravated by this fearful congestion.

It became a question which the board of health was called upon to solve. Mr. Wilson, assistant director of the Department of Health and Charities, immediately adopted and put into practical operation the system obtaining at Bedburg and Gheel. He secured a thousand acres of fertile land at Byberry (a suburb of Philadelphia), reconstructing at slight expense the structures upon it. The surroundings were exceptionally healthful, Wilson brought out a number of the mildly affected inmates of the municipal asylum and organized a colony. The patients, working under adequate supervision, painted, remodeled, and repaired the somewhat dilapidated buildings, and quietly settled down in community-houses, under the supervision of a man and his wife—the latter assuming the duties of matron.

Each colony at present consists of about 25 men, mildly insane, but harmless and willing to make themselves generally useful; all eager for a share in the responsibilities and duties of farm-life. From sullen, discontented prisoners, herded in an unsanitary

institution, with an outlook grim and saturnine, they are developing into responsible citizens of one of the most unique settlements in America.

Almost immediately after their admittance to Byberry Farm a decided change for the better seemed to take place in the physical, moral, and mental status of these patients. The symptoms of mental derangement that had led to their committal to the asylum gradually disappeared. Agreeable and healthful work in the open air afforded them proper exercise. Amusements diverted their minds and wholesome interest in an active life, of which they felt they were an important integral part, induced a radical betterment in their mental conditions.

Dr. Edward M. McLane, physician in charge, in commenting upon this improvement, writes:

"The health of the men in the colonies is far better than that of the patients in the institution. The farmers are contented. They gradually learn to forget their grievances and manias under the influence of liberty, work, sleep, and recreation. Their health is improved, and this has its effect upon their mental condition. We have little or no trouble with those that have been placed in the cottages under the supervision of the matron and her husband. They are tractable and eager to remain where they are. Many of them actually object to returning home, when they are declared cured. The percentage of discharges is infinitely higher than at institutions, and, whereas the runaways from institutions are as many as four a day, we have only rarely a case of a man attempting to escape.

The "colonists" are not restricted. They are guarded only in a general way, and are given a free hand as to their choice of work. No attempt is made to enforce any definite task. There is no need for it. Each is glad to help "keep the ball arolling." The cultivation of the farm, and the labor entailed thereby, is simply a part of a beneficent method of cure.

When they are first admitted, it is difficult to teach the "guests" to work. But, after they have comprehended what is expected of them, they take pride in exhibiting proficiency. The men raise practically all they consume, in the line of eggs, ducks, milk, fresh vegetables, and other farm-produce, and also do all chores about the house, barns, and fields. As a consequence, the cost of maintaining the colony is brought down to a minimum.

Philadelphia's experiment at Byberry has demonstrated the efficiency as well as—and this is perhaps even more interesting to state and city governments groaning under the steadily increasing burden of asylum support—the economy of colony treatment for the mentally defective.

The general adoption of this plan promises a solution of the pressing problem of dealing with the insane. Those who might be incurable under methods of restraint are improved; those who are curable get well more quickly; while, moreover, they virtually support themselves during the process.

The Promise of the Future

This experience certainly must inaugurate a new era, and it will appeal to the humanitarian no less than to the pocketbook side of our interest.

Twenty or twenty-five years ago, these ideas and methods were so novel—so unusual—that their promulgators were regarded as themselves mildly tinctured with the maladies of their own patients. Now, time and experience have justified the pioneer innovator's splendid vision.

For, the nonrestraint treatment of the psychopaths is increasingly recognized as the one method capable of replacing their drear-souled despair by the bright dawn of a hope for eventual recovery—even though this hope as yet exists but for a small fraction of the cripple-minded.

We have looked upon the lunatic with dread and suspicious horror; now we may treat him with sympathy and intelligently directed kindness. The madhouse was a prison; now it may become a refuge. Time was when to be sent to an asylum was, in effect, equivalent to burial. In very fact, death were preferable to lingering through a miserable existence—every day of which an eternity of suspense to family and friends—ending only when they brought the broken body home.

But now—even though the percentage of actual cures is pitifully meager—comes to the insane the appreciation that, at least, humane treatment, kindly ministrations, and feasible creature-comforts are being vouchsafed. For the leaven of humanitarianism is working among us. Gradually we are realizing that asylum treatment merely reflects public sentiment. We are beginning to understand that a perpetual attitude of suspicion and distrust toward these unfortunates is most unwise, from even a purely selfish standpoint. We have found that it "pays"

from the naked dollar-and-cents point of view—to adopt modern curative methods.

One influence which has contributed to hasten this consummation—although the movement has been afoot for many years—is the formation, in America, of the National Committee of Mental Hygiene, whose high object is the study and prevention of insanity and the betterment of the deviates, through propagating the principles of non-restraint. As the Committee itself states it:

"To work for the protection of the mental health of the public; to help raise the standard of care for those threatened with mental disorder or actually ill; to promote the study of mental disorders in all their forms and relations, and to disseminate knowledge concerning their causes, treatment, and prevention; to obtain from every source reliable data regarding conditions and methods of dealing with mental disorders; to enlist the aid of the federal government so far as may seem desirable; to coordinate existing agencies and help organize, in each state in the Union, a Society for Mental Hygiene."

The Testimony of One of Them

The nebulous doctrine of leniency and kindly treatment for the insane was—in certain of the more backward states—crystallized into a moving, vital force by one who himself had gone through the deep waters of mental illness, eventually to find safe footing once more upon the solid rock of sanity.

Mr. Clifford W. Beers, a Yale man, who had the misfortune to become unbalanced in a manner necessitating his confinement for three years, may be said to be the instigator of the movement in America; and he has related his experiences, while sequestered, in a graphic biography that will take high place, not alone as a piece of literature, but for the constructive value of its sound, practical suggestions. In this book, which bears the title, "A Mind That Found Itself," Mr. Beers details the methods of "restraint" experienced by him, in a manner which, if even the tithe of what he relates be true, must bring the blush of shame to the cheeks of his former attendants.

Thus, for instance, Mr. Beers describes most vividly the use of the "muff" of stout canvas—divided into compartments for either hand—the wrists being afterward locked together by manacles.

He shocks us with a recital of the horrors of the "camisole," a type of straightjacket reaching from neck to waist and laced tightly behind. The sleeves are closed at the hands and to the end of each is attached a heavy cord. These are securely fastened so as to bring the arms in a folded position across the chest. The lacing frequently is so tight as to constrict the proper expansion of the lungs, and the torture of many consecutive days of "air-hunger," while the jacket is worn, may well be imagined. It seems quite plausible that the soothing effects of this "cure" upon a highly excited nervous organism are chiefly conspicuous by their absence. The muffs and camisoles are used, not because they are more effective, but because they are "economical." For a pair of "mitts" or a straightjacket may take the place or two or three guards. The account of solitary confinements in a padded cell are too revolting to publish. On our heads be the shame for maintaining such unspeakable styes.

Cruel Means of Restraint

Also, according to the testimony given before the Congressional Committee which investigated the Government Hospital for the Insane at Washington, D. C., untrained attendants seemed prone to resort to the use of the wet towel as a sort of garrote. The most refractory patient readily succumbed to this form of "persuasion."

Of the "kneeing"—which consists of gouging the breath out of an inmate by the use of the knee—the beating, choking, cruel, and inhuman treatment of the insane in some asylums, perhaps the less here said the better.

Those familiar with Charles Reade's "Hard Cash" may remember that, in the controversy following the publication of this epoch-marking novel, the author proved that the ribs of insane patients often were broken by brutal keepers with a fiendish skill and devilish dexterity. That similar outrages sometimes are being perpetrated in at least fourteen states of our Union, demonstrates that the National Committee for Mental Hygiene has adequate reason for existence. The civilizing vaccine may have to be injected with no light hand before these ulcers of medievalism heal, and become a thing of the barbarous past.

And, lest it be contended that these iniquities no longer exist in America, remember that Dr. Thomas W. Salmon, director of special studies of the National Committee for Mental Hygiene, says that, "whereas the care of the insane in a few enlightened states is a matter of just pride, there is not a single

condition which existed in the early period of neglect and abuse which does not exist today in some American community."

Dr. Lewellys F. Barker, of Johns Hopkins University, has epigrammatically expressed the intent of the Association to be, "to secure human brains so naturally endowed and so nurtured that people will think better, feel better, and act better than they do now."

Another matter of criticism in asylum treatment is, the improper classification of the demented. It is relatively as unfair to confine the mildly insane among madmen as it is to immure the sane among the insane.

And, incidentally, the employment of "chemical treatment" is condemned. This restraint consists in the use (or abuse) of temporarily paralyzing drugs—hyoscine being the principal "remedy" employed. By its use, obstreperous and troublesome patients are rendered unconscious, and kept so for hours at a time—perhaps, at intervals, even for days or weeks. Obviously, this injures the recuperative powers of brain and body and greatly diminishes the chances of ultimate recovery.

The Better Way

Hence, in our model hospitals, instead of employing mechanical and medicinal restraint, it is now the custom to substitute the continuous warm bath, into which an excited patient may be placed and kept for hours—or even for a day or two, if necessary, until his excitability gives way to a fair degree of repose. A canvas hammock with a rubber air-pillow is swung in a large bath-tub into which the warm water continually flows, maintaining an even temperature. Almost without exception, the patients enjoy this experience. The bath acts by equalizing the circulation of the blood, relieving congestion in the brain or its coverings (meninges), and drawing through the pores accumulated toxins that irritate the nerve-centers.

A normal human being constantly generates poisons—from the breaking down of cell-tissue (katabolism). If the pores were sealed with some impermeable substance and thus this most important of the four avenues of excretion cut off, it is believed that a person would die within forty minutes, killed by his own products of decay.

In the excited insane, cell destruction unquestionably is much more rapid than in normal beings (if we except athletes during their most violent paroxysms). The relation existing between the bath and toxic elimination, therefore, is quite obvious. In fact, the tepid bath might be decidedly useful in calming hysterical women and nervous, fretful children, were it resorted to more generally in our households.

The total lack of that atmosphere of kindness so necessary to the wellbeing of the sane (doubly essential to the restoration of the unbalanced mind) is emphasized by Mr. Beers. He says, and truly, that what the insane need most of all are "friends." The development and general adoption of the system of non-restraint are providing these friends, by the immutable principle that "as a man thinketh in his heart, so is he." In other words, one's acts are bound to shape themselves automatically to one's thoughts.

Hospitals—Not "Madhouses"

This is interestingly reflected in the elimination of the "suggestive" influence of words. The old terms "lunatic-asylum," "insane-hospital," and "madhouse" are giving way to the simple and hopeful-sounding "state hospital." The words "insane," and "lunatic" do not even appear upon the stationery of modern asylums.

Mental alienation is increasing. The reason is, that both Bacchus and Venus are more assiduously worshipped than heretofore. Also, cocaine, morphine, caffeine, acetanilid, and other habit-forming drugs are abused more regularly and persistently. This matter is now receiving world-wide attention, and regulation of the mottled traffic bids fair to bear fruit eventually.

The time may come when the hope of recovery can be entertained from forms of insanity that now defy all attempts to cure. But that time, so far as human vision perceives, lies in the far-distant future.

As favoring recovery, alienists lay particular stress upon the value of an early diagnosis. One of the chief aims of the "Society for Mental Hygiene" is, to familiarize physicians and the public with a knowledge of the premonitory symptoms of mental involvement, in order that immediate treatment may be instituted. Early recognition of mental disease has a more profound bearing upon a successful outcome than is the case even in physical conditions, cancer or tuberculosis, for example.

It is hopeful, however, to know that all hereditary insanity can be prevented. Virtually every alienist of any repute agrees that to prevent the insane and feebleminded from becoming parents would depopulate the asylums. We are in command of a sure, painless, humane remedy—whenever the public signifies that it is ready to accept it.

However, there is no specific for insanity after it has developed. All that any system of treatment may hope to accomplish is, to give nature a chance to restore normality, by surrounding the patient with the best attainable conditions. Cure depends upon care.

Happily, the horrors which Hogarth has so graphically depicted are being ameliorated and abolished in our asylums. While there still is much to remedy, were Philippe Pinel, Benjamin Rush, William Tuke, Gardiner Hill, John Conclly, and the great fathers of modern insane-treatment to come back and view the progress that has been made, they could not be otherwise than highly gratified.

Pending such time as a specific physical cause for the curable forms of mania shall be found, humane methods bid fair to gain the largest measure of success. It has been a noble and inspiring advance, and the movement should appeal to every living man and woman. For, we all are potentially capable of achieving insanity.

In that event, we could profit by the reforms which our own influence had helped to bring about. This would be "casting one's bread upon the waters"—in its completest meaning.

The Wax-Man Affair

Chapter Two in "Lens, Reagent & Co."

By B. G. R. Williams, M. D., Paris, Illinois

A WELL-WRITTEN detective story makes intensely interesting reading. But, we all know that the methods detailed by the author are not those followed by our most successful detectives. The modern sleuth hunts down a criminal by a system which is about as follows:

Take, for example, the case of the theft of a noted diamond. First of all, a very close study is made, in the rogues' gallery, of all persons known to have stolen diamonds in the past, and especially of those who have used similar methods. Any of these serving sentences at the time are, of course, excused from suspicion; the whereabouts and present habits of the others, however, are carefully investigated. At length, a certain number of suspects are corralled. He who can promptly prove an alibi is forthwith released. Others are held for a more thorough examination; that is to say, they are held (for experience has shown the advisability of this) until they can make it appear that they probably are innocent, or, if not, the state will endeavor to secure enough evidence upon which to prosecute.

Essentially similar methods are employed by the diagnostician, or at least by most diagnosticians. Now and then someone tries to write a textbook showing that this is not the proper procedure, but that, rather, our diagnoses should be reached by a very close study of symptoms, signs, and laboratory-finds; and that, if this study be close enough, there can result but one diagnosis in the end. Somehow, though, most of us drift back again to the old method, which appears to be the most practical, after all.

For example, a patient presents himself for study. This man is pale; in fact, he is very pale. His appearance is that of wax and it is evident that his condition is serious. He is languid, short of breath, dizzy at times, cannot work, complains of diarrhea, nausea, and of palpitation of the heart. Now, this may be a case either of—

"Hold!" cries our romantic diagnostician. "Suppose that we begin with symptoms and work up to our diagnosis." Perhaps this may be done. So, we place the matter in the care of Hand, Ear & Co. and instruct them to proceed by this plan.

The patient is stripped. There is but little or no emaciation. There may be a peculiar lemon tint of the skin, which latter may seem to be flabby, at points, edematous. A very close observer will notice some moles on the chest. The scleras are pearly. Otherwise the physical examination is negative, save for the fact that a suspicious heart murmur is, finally, defined as hemic. Such is the evidence. The patient now may be given treatment or else turned over to the laboratory-worker, for further study.

As a matter of fact, I recall such a case, in which the former choice was made. "For," perhaps reasoned the physician, "here are the typical symptoms of a pernicious anemia. Now, if it were a nephritis (note that such a doctor must, invariably, fall back upon the plan of eliminating diseases having diagnostic features in common), the eyelids would

be edematous, the patient would be affected mentally or would have observed alterations in his urine. No, indeed! Nor can it be a cancer of the stomach, for, there is neither pain nor emaciation. Leukemia is impossible, because his spleen is not enlarged. As to other possible diagnoses—well, this patient is in a bad condition and cannot live, anyhow. I don't take any stock in this laboratory foolishness; at any rate, I can get by with this diagnosis about as well as any other."

However, what happened in this case was as follows: Another physician was called in. (Curses from No. 1.) Now, this second physician had never been called into that family before, consequently wanted to make good. (He should have been more ethical!) He likewise believed the diagnosis of pernicious anemia to be correct, but took no chances. He insisted upon a blood and urine analysis. He knew that, while neither might help, the gamble was good. Thus, it happened to become the pleasure of the writer of this article to make those examinations. The blood of this patient indicated a secondary anemia, but, the urine—words are unnecessary. The patient with the "pernicious anemia" is very much alive today. When the good people of this vicinity gather at the Sunday-school picnic or the pound-party for the preacher, this man tells the old story of how Doctor No. 1 very nearly killed him, but thanks to Doctor No. 2 he still is alive.

All of which has not made a hit with No. 1. These examinations were made without any knowledge upon the part of the laboratory-worker as to the points at issue. Whether this was known by physician No. 1, I never have been told. How did he take it? If he had sat as judge upon my case, he would not have let me off with simple hanging: the sentence would have been, death by torture. Nevertheless, eventually he must have seen the matter in the right light, inasmuch as today he is one of the most enthusiastic believers in the laboratory aids.

Let us return to our theoretical case. Lens, Reagent & Co. begin with the supposition, "Now, this may be a case of—"

However, we must call a halt upon this method of procedure and reach our diagnosis by synthesis rather than by the elimination of possibilities.

The urine shows, perhaps, an occasional hyalin cast or even a granular cast in a droplet of the sediment. A very faint trace of serum-albumin may be detected by the most sensitive clinical tests. But, is this a case of nephritis? The urinary solids approximate normal, there are no very great variations in the 24-hours' quantity, and a careful search reveals no kidney-cells. Nevertheless, this man is very, very pale and weak. No, the diagnosis of nephritis will not do. Perhaps we may recognize some nephrosis (kidney injury); but this is, certainly, secondary to more vicious diseases of other organs. The urine is then attacked from other angles. There is some indican, but no copremia could account for symptoms so serious as those of this subject. There is no urochromogen, no glucose, no bilirubin, no diacetic acid, no urobilinogen, nothing else of importance. Plainly the urine does not aid us in our diagnosis, although other tests conducted later may do so.

What of the blood? The color-index and red-cell count are both below normal, and the reduction is in about the same proportion. In other words, we have both an anemia and a hemoglobinemia. A spread rules out leukemia. Now let us study the red cells. These in the main are normocytes. That is to say, the greater number of cells are neither increased not decreased in size. This is not a large-cell anemia, and the point is important, for, a few microcytes may have been observed. The red cells take the stain to about the same concentration—there is no polychromatophilia. A few nucleated reds are found, yet, they are normoblasts rather than megaloblasts. Poikilocytosis is marked. For all this, we must finally acknowledge that this is a secondary anemia.

Then, to what condition is this anemia secondary? It may be a toxic anemia. It certainly is not resultant upon hemorrhage, since this patient has not bled at the nose, stomach, gums, or lungs. Our doctors in the South might suspect ankylostomiasis and set about to examine the stools for the characteristic segmenting ova. Parenthetically I may add that I have found them in Illinois. At least, here is a clew, and Lens, Reagent & Co. do make an examination of the stools. They do not find worms, still, they do find traces of blood.

Such occult blood may, of course, appear either in a severe nephritis or in an essential anemia. Such a finding, however, always makes the surgeon sit up and take notice.

Before telling the reader that our theoretical case was truly an actual one, it may be necessary at this point to answer some criticisms.

"If this were a case of peptic or duodenal ulcer," suggests our critic, "there would have been some epigastric pain, symptoms of

hyperchlorhydria, also some hematemesis." The suggestion is a good one, and, according to the texts, cannot well be refuted. Pain and vomiting need not be present, still, hyperacidity invariably is present. It is true, this symptom may have been overlooked in the history taking. As a matter of fact, this was not a case of benign ulcer, but eventual operation revealed a belly filled with malignant daughter-tumors.

"But where was the cachexia?" persists our critic. I do not know. But there was no cachexia. Moreover, it may interest the reader to learn that the patient died within two weeks after the operation, showing practically no sign of cachexia, but the symptoms of a severe anemia.

Let us go back a bit before taking up the operation. This anemic person began to complain of bloating and took to his bed. Examination showed a temperature of 101 degrees, rarely or never dropping to normal. Moreover, the first laboratory examinations that actually were conducted with respect to this patient were those for typhoid fever. When it became evident that typhoid fever could not be the diagnosis, we examined the blood and the urine. Finally the occult blood in the stools called surgeons into consultation, Exploratory operation was advised and accepted.

Briefly, therefore, this patient had been affected with a malignant growth of the bowels that had given no sign save that of a severe anemia. The onset of severe symptoms was sudden and puzzling, and they certainly were not those expected to be encountered in cancer.

"Well," sighs Old Fogy, "I fail to see where laboratory methods and a pretty diagnosis saved the patient's life. He died just as dead as if his ailment *had* been pernicious anemia."

This observation is an old one upon the part of the slipshod worker, and we must be charitable with our logician of the Devonian Age. Granted that in this instance our friend could have ruled out nephritis, hookworm, benign ulcer, tuberculosis, and so on (but which he could not have done), he would have applied the very same methods in the next case, and the next one, and all the ones to follow.

And so he goes, depending upon luck, but terming it skill. Now and then he hits the diagnosis and then congratulates himself upon what a wonderful diagnostician he has become. Still, now and then he botches a case and wants to burn some laboratory-worker at the stake or feed him to the termites.

Think it over. In a coming communication, I shall present some more actual cases, to show the importance of the microscope and test tube in the field of diagnosis.

Next month: "The Lumbar Misery."

FORMS ARE CLOSED

By Mary Cabell Richardson

He did not die as men who struggle, hopeless, fall,
But slipped into a dreamless sleep—and that was all.

He never saw the sordid, crushing strife—
Happy in sunshine he taught that love is life,
And men are helped by homely, touching art,
He held the key that ope'd the saddened heart.

To him mankind was good, nor measured rank nor station.
"The devil e'en he did not hate, but wished his reformation."

The forms are closed! And thinning guards stand by the bier
Of him who taught in sunshine and laughed away all fear!

Beauty in General

And the Tip of the Nose in Particular

By Ralph St. J. Perry, M. D., Minneapolis, Minnesota

DITORIAL NOTE.—Here we have another of Doctor Perry's interesting papers upon cosmetic surgery, one phase of it. The doctor is showing us how much can be done to make even the ugliest face passably attractive. This is a branch of surgery with which every physician should be familiar.

AGAIN the questions come to me, "What is your standard of beauty?" and "Do you set yourself up as an expert and a judge?" I say "again," because these questions have been thrust upon me many times during the thirty years I have been spreading the gospel

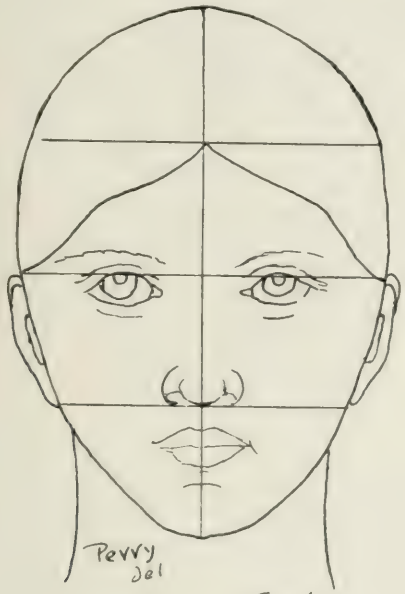


FIG 1

of beauty and endeavoring to correct nature's errors and to remedy the disfiguring sequelæ of disease and trauma. No, my dear friends, I am not posing as a dictator in matters esthetic, merely as an exponent; am not using standards which were established centuries before this generation was born, even at a time when you and I were minute portions of protoplasm in the graaffian follicles of some far-remote ancestress.

The most ancient works of art, happily rescued from prehistoric ruins, the products of the artists of ancient Greece and Rome, as also of those of the middle ages and of today, all show an adherence to the same ideals of proportion in the human figure. And, while these standards were, originally, established by a race of people living on a very small area of the earth's surface, and whose opportunities of observation and study were limited to their own circumscribed world, they, still, apply to all divisions of the Indo-European race as well as, in a great degree, to the Ethiopians and Mongolians.

George Santayana, in his "Sense of Beauty," says, "Beauty is pleasure regarded as the quality of a thing." It matters not what the thing—man or woman, bird, beast or flower, building or landscape, sky or sea, odor or sound, even an intangible thought—it may be capable of giving pleasure and, so, become "a thing of beauty and a joy forever." Pleasures which appeal to the senses of taste and touch are not usually described as "beautiful"; nevertheless, the descriptive terms might well be considered as synonymous therewith.

Monotony in the beautiful is relieved by the fact that races and individuals vary in their senses of pleasure and their ideals of beauty.

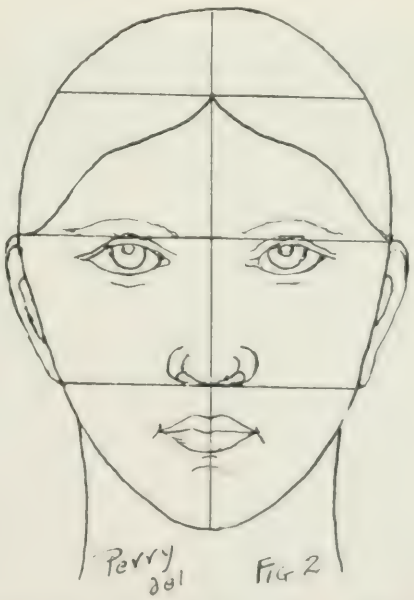


FIG 2

What appeals to one individual makes no impression upon some other person, and what one race regards with pleasure may be a matter of unconcern or even displeasure to some other. This dissimilarity of ideals and

diversity of tastes is what goes to make up the joy of living, for, somewhere among the heterogeneous products of nature each individual finds an affinity, and is happy.

Ideal Proportions of the Human Body

As to the proportions of the human body, as stated before, these have been studied and the discoveries collated, and all artists understand and use certain rules of proportion; which rules have been formulated from measurements of hundreds of works of art and

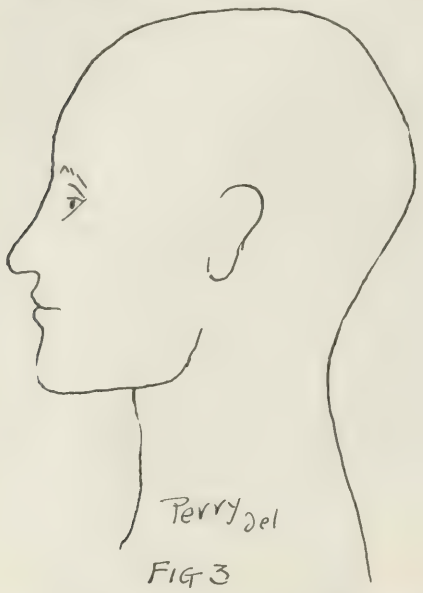


FIG 3

hundreds of thousands of human beings. The artist's conception of human proportions is the ideal, the composite of many individuals, and it may be said without hesitation that no one individual ever has conformed exactly to them.

In formulating these rules of proportions, it was found necessary to have some unit of measure that could be universally applied to all individuals, and that this unit should be within the individual himself; and after much study and measuring, it was discovered that all parts of the body were proportional to the head. As a result of this observation, artists divided the head into nine* equal parts, and each of these designated a unit. Thus, then, applying this unit to the other parts of the body, we get the artistic body, and this ideal human figure is equal to 8 heads in height, or 72 units, and is proportioned as follows: these data being complied from Marshall's "Rule of Proportion":

*The number nine entered largely into the religion and mythology of the ancients, and its use in this connection probably is due to these influences.

PROPORTIONS OF THE HUMAN BODY

[The unit of measure is 1-9 the distance from crown to chin.]

	Units, Male	Units, Female
Body (head and trunk)	36.5	37.5
Crown of head to chin	9	9
Chin to end of sternum	9	9
Neck—axial length	3	3.5
Sternum to crest of ilium	9	9
Crest to 1-2 unit below gluteal fold	9.5	10.5
Lower extremity	41	40
Thigh—from trochanter	18	18
Leg	14	14
Foot	9	8
Upper extremity	29.5	28
Arm	13	12.5
Forearm	9	8
Hand, including carpus	7.5	7.5
Total height (taken lying down)	72	72
Standing-height (stature in units)	67	67.5
Average height of 500,000 men in U. S. Civil-war recruits, inches	67.3	
Average height of recruits in British Army (in England), inches	67.3	
Average height of English women (source unknown), inches		63
Average height of 8000 Amhurst students (17 to 26 years of age), standing, inches	67.9	
Average height of 8000 Amhurst students (17 to 26 years of age), lying down, inches	68.1	
Average of Smith and Wellesley Colleges' students (female), inches		65
TRANSVERSE MEASUREMENTS		
Head	6.5	6.5
Face	6	6
Neck	4.5	4
Shoulders—deltoid prominences	18	17
Thorax, at nipples	13	10.5
Between nipples	9	8
Waist, at 10th rib	10	10
Pelvis, at crest of ilium	11	12.5
Intertrochanteric	13	14.5
ANTEROPOSTERIOR MEASUREMENTS		
Cranium	8	8
Occiput to tip of nose	9	9
Neck	5	4.5
Chest, deepest part at nipple	10.5	9.5
Waist, at 10th rib	8	8
Pelvis, at crest of ilium	11	11
Gluteal	9	10.5
Length of foot	10.5	9.5
FACIAL MEASUREMENTS		
Length of nose	2.5	2.5
Width of nose at root	0.85	0.85
Width of nose at nares	1.25	1.25
Height of tip of nose	1	1
Width of mouth	1.67	1.67
Thickness of mouth, two lips closed	0.833	0.833
Length of eye—palpebral slit	1.67	1.67
Width of eye—palpebral slit	0.833	0.833

	Units, Male	Units, Female
Distance between the eyes (inner canthi)	1 67	1 67
Length of ear	2 5	2 5
Ears, distance of projection from head, anterior aspect (or, "front elevation")	0 25	0 25
Ears, distance of projection from mastoid process, not to exceed	0 75	0 75

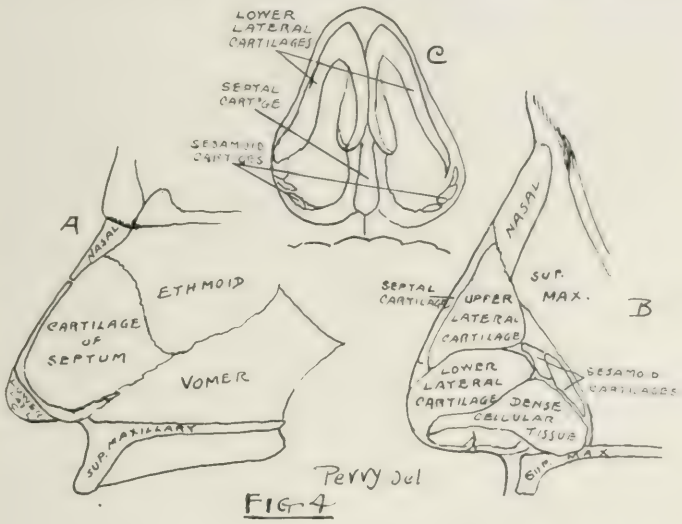


FIG. 4

Seeming inaccuracies in the table result from an overlapping of some of the measurements. The variations occurring between the artistic standards and actual proportions as found in life can be seen by comparing the measurements of height (stature) as shown in the table; but these are considered so insignificant that in general work a unit and an inch are regarded as virtually the same. In every individuval, there are variations and deviations, owing to muscular or osseous development or to pathological causes; in most persons, the right side is larger than the left.

The Divisions of the Head

Artists, as a rule, divide the head into 4 parts. Some make these parts equal, of 2.25 units each (Fig. 1), while some apportion the parts as shown in Figure 2. Measurements follow:

Crown to hair-line	1.5 units
Hair-line to top of ear	2.5 units
Top of ear to bottom of ear (and top of nose)	2.5 units
Tip of nose to point of chin	2.5 units

The head viewed laterally is ovoid (not oval) in shape (Figs. 1 and 2), with the smaller end at the chin, while viewed laterally it is more top-shaped (Fig. 3), with the point at the chin. Figures 1 and 2 give an idea of how the same face appears when drawn according to the two different proportions; the two heads are exactly the same size, but the features vary slightly in size and position, the face in Figure 2 being one unit longer than in Figure 1.

In studying the head and face, we must bear in mind Vitrurius' definition, to the effect that "proportion is the commensuration of the various constituent parts with the whole, in the existence of which symmetry is found to exist."

There are several minor "rules of proportion" concerning the head and face; namely:

"Shapeliness" an Essential to Beauty

Hair-line to chin equals 1-10 of the height.

Face and hand are equal in length.

Head and the span of thumb and second finger are of equal length.

The eye is divided into 3 equal parts, of which the iris is the central third.

Fig. 5. A case of rhinophyma

The pupil of the eye is equidistant between crown and chin.
The width of the face is equal to 5 times the width of the eye.
The width of the eye (horizontal) is 2-3 the length of the nose.
The width of the mouth (horizontal) is 2-3 the length of the nose.
The width of the eye (vertical) is 1-3 the length of the nose.
The width of the mouth (vertical) is 1-3 the length of the nose.
The width of the nose at nares is 1-2 its length.
The height of the tip of nose is 2-5 of its length.
The nose is the unit of measure in the face, it being the only fixed feature.

But, proportion alone does not constitute beauty; we must consider shapeliness of the parts, the curves and rounding out of angles, the location and extent of the various concavities and convexities of the several features, the color and texture of the skin and mucous membrane, the luster of the eye, the condition of the teeth, the color and growth of the hair, besides many other minutiæ which correlate to produce the seductive physiognomy.

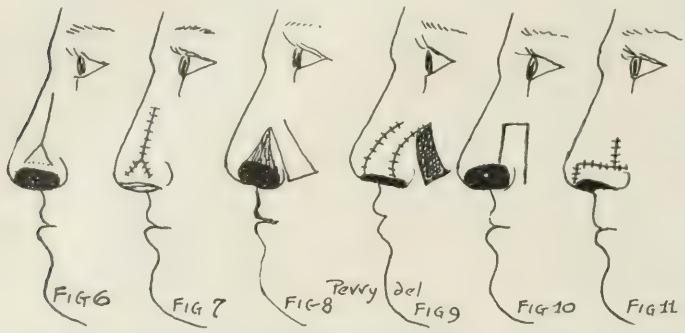
It is the variations of these very minutiæ and the many possible combinations thereof that create the many types of beauty, thereby affording gratification and consolation to the many diversified tastes and ideals. The consideration of these details will have to be taken up in connection with the individual features.

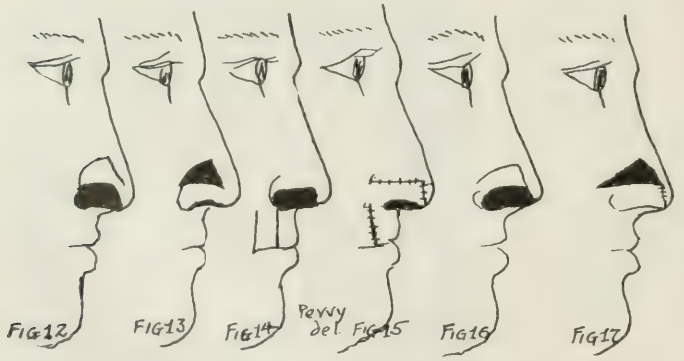
Now, to isolate one feature:

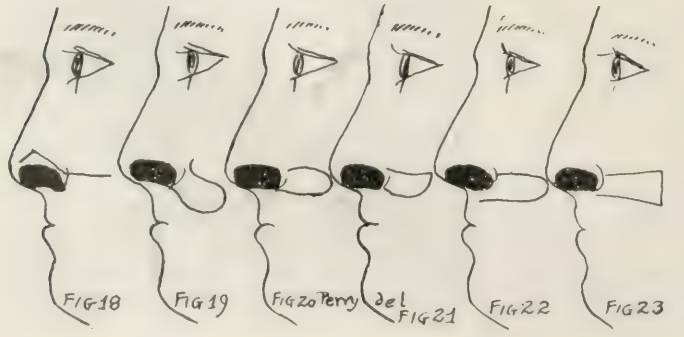
The Nose in Detail

The nose is the most conspicuous of the features going to make up the face, standing out, as it does, before all others, and the only one which cannot well be disguised or hidden from view. The mouth, chin, and jaws can be hidden (in the man) by the beard, the ears can be covered by the hair or head-covering, while the eyes may be squinted, tightly closed or shielded by colored glasses; all, to conceal or disguise those several features; but, the nose is the one feature which refuses to be denied the limelight. Being fixed and immobile, it is the part about which all others are grouped and by their relative positions give expression to the face. The nature and extent of a smile, the glance of an eye, in fact, all muscular actions of the face depend for their effectiveness upon their relations to the protruberant nose.

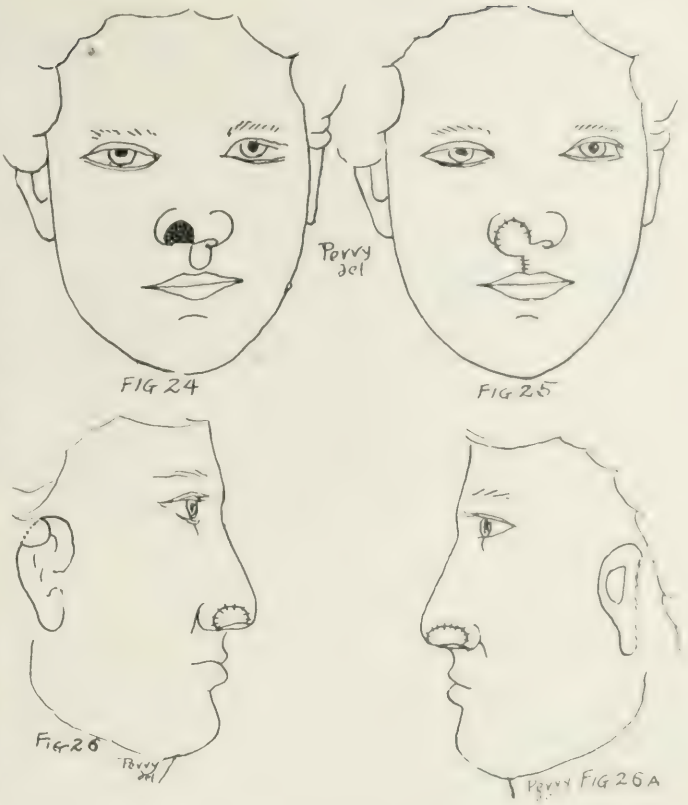
The nose of cosmetic surgery is the pyramidal external organ of olfaction, and is topographically divided into a root, bridge, and tip. Structurally, it is built up of the nasal bones, the nasal processes of the superior maxillary bones, a septal cartilage, several lateral cartilages, the perichon, dense cellular tissue, some fat and connective tissue, a few small muscles,







nerves and blood-vessels; the whole being covered with skin, which is thin and loosely attached over the root and bridge, but thicker and closely adherent over the tip, at which spot it is abundantly supplied with very distinct sebaceous follicles and, sometimes, a slight growth of hair. Upon the bulk, shape, and position of these elements depend the size and form of the nose, as a whole and in its parts. The component sketches of Figure 4 show the bones and cartilages which form the nasal framework.



Beautifying Unbeautiful Noses

The vast number of cosmetic operations relating to this particular organ requires that this paper be limited to those involving only the tip—the others to be taken up in some subsequent script.

The tip, or lobe, of the nose is that pliable portion extending beyond the septal cartilage, and includes the lower lateral cartilages, with their coverings and connecting tissues, the lower nares, the alæ, and the subseptum, that is, the lower end of the septum. It is the mobile part of the nose, and we find seven pairs of muscles that, respectively, dilate and compress the nares, elevate and depress the alæ, and, indirectly, depress the tip of the nose. These muscles in humans are almost rudimentary, although they do come into active play in certain sicknesses and in the expression of some mental conditions, such as the passions, for instance.

There are certain pathological conditions which seem to possess a certain selective affinity for the epidermis of the nasal lobe.

Rhinophyma is one associated with, and following, aggravated cases of acne rosacea, in which we find a chronic dilation of the blood-vessels, hypertrophy of the corium, with connective-tissue overgrowth, and enlargement of the sebaceous glands. (Fig. 5.) The remedy consists in excising the hypertrophied tissues with the knife or scissors and, so, reducing the bulk and shape to normal; although in some cases, if seen in their incipiency, fairly good results have been secured by scarifying the vessels, slitting them up with a Graefe's cataract-knife or by cauterizing with the electric needle.

Seborrhea, acne, and comedo frequently involve the tip of the nose and may be manifest as a "greasy nose" (often the reflex of some hepatic disorder), as a group of enlarged pores emitting copious quantities of oil or perhaps plugged with sebum and dirt, forming comedones and acne pustules. The treatment is the same as for these conditions occurring elsewhere.

Erythema simplex is an aggravating condition quite frequently encountered in feminine nose-tips, and for which there are several causes, both local and reflex. A red nose may be caused by infection, sunburn, frostbite, persistent local irritation, intranasal troubles, alcoholism, amenorrhea, dysmenorrhea, uterine congestion or inflammation, syphilis, and many of the dermal diseases. In young women, the most likely causes are, menstrual derangements, sunburn, and local irritants. The wearing of veils is a common cause, although one mostly overlooked. Erythema, the result of transitory local causes, can easily be "bleached" by means of simple lotions of

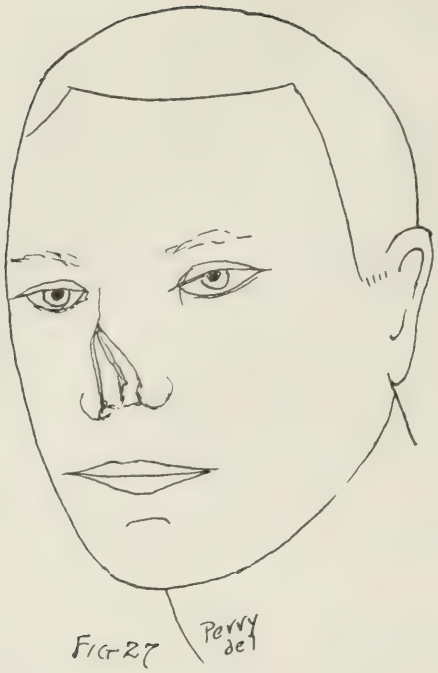


FIG 27

boric acid or calamine; but of a reflex nature must be treated by way of the deeper-seated origin, supplemented by local treatments.

FIG 28

Abscess of the connective tissues of the nasal tip virtually always is followed by a depressed cicatrix, small, because the abscess is small, but gigantic as a destroyer of one's

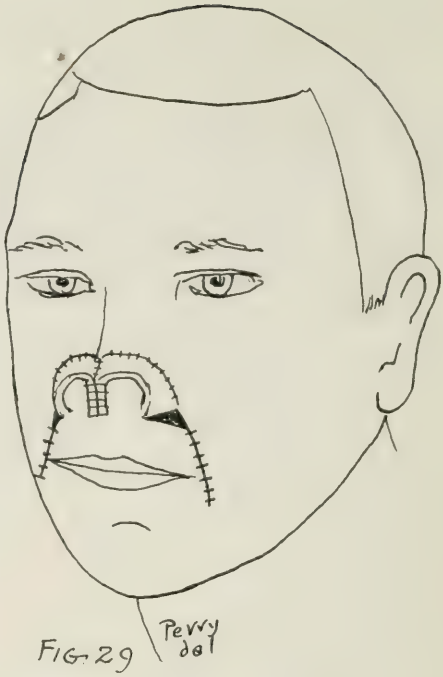


FIG 29

peace of mind. These disfigurements are readily and almost instantaneously removed by means of paraffin-prosthesis or of a needle elevation operation. (This condition should not be confounded with abscess of the septum.) Smallpox-pits call for treatment by

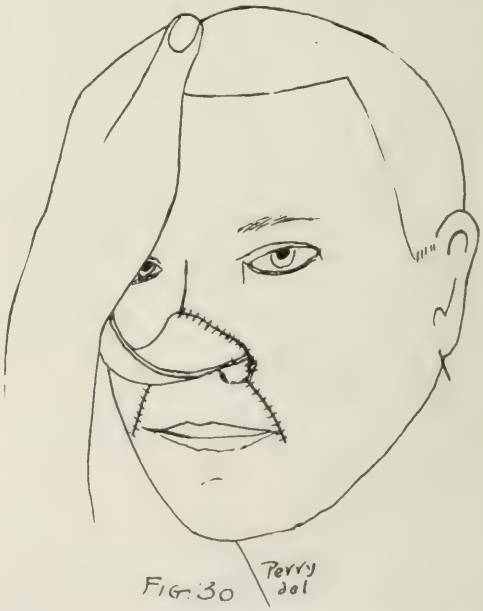


FIG 30

means of electrolysis, phenol, cautery or thiosinamin-plaster.

Epithelioma about the nares, the same as elsewhere, is destructive of tissue and calls

for plastic operations designed to restore the defects. My personal experience is, that

FIG 31

FIG 32

the several caustic treatments will effect a cure of epithelioma of the nasal tip as effectually as will surgical excision, and with less sacrifice of tissue and better end-results cosmetically. In repairing defects, transplants may be made from the adjoining tissues of the cheek or lip or from the forearm. The work is patchwork and calls for skill and ingenuity in fitting the patch to the defect as well as careful general technic.

Of operations for the restoration of these defects there are many, and they not alone are available for epitheliomal sequelæ, but for defects owing to frostbite, trauma or other cause. As a rule, the essential features of these procedures can be more readily grasped from an outline-sketch than from a work-sketch, and the reader is invited to study Figures 6 to 34, in which several of the commonly used operations are pictured, "before and after."

Hirsutes of the tip may be internal or external. The interiorly growing hairs are best removed from sight by keeping them trimmed short, using fine scissors every few days, as needed. In most cases, the roots cannot be reached with an electric needle. The external hairs are found on the extreme tip of the lobule, in some patients. My own opinion is, that electrolysis is not the best treatment in these cases, and for years past I have had recourse to depilatories. At present, I remove these hairs with the aid of Abbott's depilatory powder, a method which permits of using a fresh medicament for each application. This epilation treatment is painless and consumes only a few minutes of time. The result is not permanent, so that the applications will have to be repeated from time to time; still, it has been noticed in many cases that after repeated treatments the hirsutes become discouraged, the roots devitalized, and growth is suspended.

Gunpowder-marks are easier prevented than removed. Immediately after the powder grains have become implanted, they should

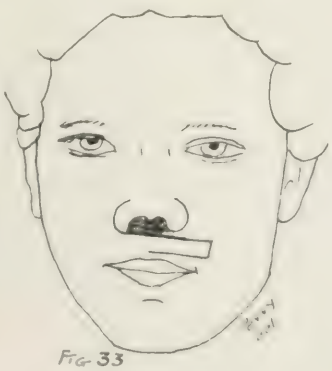


FIG 33

FIG 34

be removed by picking them out with a fine spud and then the cavities be freely flushed with hydrogen-peroxide solution. The staining is due to the carbon. Cases of long standing should be treated in the same way as tattoomarks, that is, punched out, if small, or tattooed over with glycerite of papoid or caroid, if they are too large for the punch.

Involving the *blood-vessels* of the tip, we find varicosities, angioma, nævus, and telangiectasis. Where one has the necessary equipment, the most satisfactory treatment for these conditions is desiccation by means of the high-frequency current. Very often electrolysis is valuable. Varices can be ligated, while the soft, fleshy nævi, moles, and similar blood-filled growths can be removed by the careful and judicious use of Abbott's dermal caustic.

Various *tumor-growths* are found within the tip of the nose, in fact, any form of hyperplasia, except osseous, can develop from its tissues. Most of these are amenable to operative treatment, with only trifling disfigurement or scarring; in fact, seldom is there anything more than a fine lineal scar where the skin incision was made.

The one exception is that rare disease known as *rhinoscleroma*, an affection of the skin and mucous membrane of the nose in which the nostril is more or less occluded by flattened growths of tissue of a stony hardness. Its etiology is not definitely known; the prognosis is unfavorable, the growth persisting through life; and treatment by excision or otherwise has so far afforded only temporary relief, as recurrence follows in a short time.

Quite frequently the nose is misshapen or the nares are occluded by *polypi* or other growths within the cavity. Such should be dealt with according to their nature.

(*To be continued.*)

THE LAY OF THE FISHERMAN

By F. M. Johnson

Be there a man with soul so dead,
Who never to himself has said,
"This is the day for gamey bout
With thee, my sportive mountain trout"?

If such there be, then let him ride
To spots where gleaming rivers glide
'Neath Autumn's sun, 'mongst canyon walls.
In white-crowned riffles, bubbling falls.

There in the place where wild-folk ran,
Far from the taints of worked-out man,
Put up your rod, tie on your fly,
And give the gamey trout a try.

Where willows kiss the laughing stream,
And Autumn tints so brightly gleam,
In pools and 'mongst the watercress
Your foeman lies, in peace and rest.

Your dainty, well-made, well-cast fly
Floats down the stream, and rushes by
Your worthy foe, and like a dart
He rushes out to do his part.

A jerk! A tight'ning of the line!
Ah! well you know that for a time
Your skill, your tackle and your might
Must enter in the well-fought fight.

You reel him in! You let him out!
You both play fair in mighty bout.
Your heart within you starts to sing
With joy to hear the old reel ring.

AT LAST! Within your web-like net,
With heaving sides and glist'ning wet,
Your foeman lies! Ah! now you feel
That foe was worthy of your steel.

The man who trods the leaf-strewn sod
And sees the wonders of his God
On every leaf, must morbid be
If he gives not his thanks to Thee.

IS THERE a man with soul so dead,
Who never to himself has said,
"This is the day for gamey bout
With thee, my sportive mountain trout"?

Perianal Vegetations

And What to Do for Them

By Charles J. Drueck, M. D., Chicago, Illinois

VEGETATIVE growths about the anus, sometimes called warts or papillomata, consist of a hypertrophy of the papillary layer of the skin and are composed of connective tissue and blood-vessels, together with a covering of epithelial tissue; they are bright-red in color, fragile, and liable to bleed freely. Little warty tumors develop, which rapidly branch and intermingle with the branches of other warts until they form what seems to be one large flat tumor, but which, when removed, is seen to be attached to the skin by numerous pedicles. The moisture and secretions collect between these ramifications and, as a result of maceration and decomposition, these growths throw off a strongly fetid odor. By the contact, all of the surrounding tissue becomes inflamed. According to the exuberance of the growth, various fanciful shapes are assumed, these being described as cockscomb, cauliflower, and such like. When the connective tissue is abundant and the epithelial covering is thin, the growth is dry and hard; but when the dermis is thick and the growth soft, it is moist. The growths are bright-red, turgid, and bleed easily, being largely supplied with blood-vessels.

The etiology of these growths is not known; the moisture and warmth of the parts favor the development, although an idiosyncrasy exists in certain individuals. Formerly they were considered proof positive of syphilis and sodomy, but, although they may be associated with syphilitic lesions about these parts, they are not necessarily a sign of lues, for they are found in persons apparently healthy and cleanly. It is possible that the discharge of gonorrhea and leucorrhea, from hemorrhoids, proctitis or any other lesion may be the cause. The condition itself is not contagious and is not responsive to antisyphilitic treatment.

The vegetations usually develop during adult life, but are sometimes seen in infants and the aged. Their development in some persons is rapid, and slow in others. In advanced life, it is thought, they result from degenerative changes in the skin. The growth may consist of a single papilla or it may involve the whole intergluteal area. It may be situated at the anal margin or outward, on the buttock. Often the primary growth begins on one buttock and later affects the opposite cheek. Any kind of irritation would produce the same effect. The symptoms, therefore, vary with the extent of the growths, their location, and the amount of the secretions.

When the growth is large, the patient is aware of a foreign body being present between the nates, and he is annoyed by the foul discharges as well as by the fresh abrasions constantly occurring. When the anal margin is involved, defecation causes considerable pain, which may resemble the pain of fissure; there also may ooze out a few drops of blood. Although as a rule these growths develop on the outside skin, they may originate within the rectum and then are very difficult to diagnose.

The differential diagnosis is not difficult, except that it may be mistaken for a mucous patch; its attachment, like that of a shrub, being sufficient to distinguish it. Syphilides have a diffuse infiltrating base and form a broad, flat mass free from any tendency to pedunculation. Malignant growths are deep-seated on an indurated base and tend to invade the deeper structures.

In the treatment of this affection, scrupulous cleanliness often is all that is necessary; however, the application of any kind of astringent dusting-powder that dries and shrinks them is a very efficacious aid. When the growth is small, it may be removed by ligating it; when broad and flat, though, the ligature cannot be applied. The quickest and surest method is, to excise with the knife or scissors, then touch the bleeding points carefully with the thermocautery. I recall the case of a patient who presented himself in extreme suffering. As he was an ambulatory patient and had to be on his feet the greater part of the time, only a small area was removed at a time in this manner. The field was well washed with soap and water, scrubbed, and dried. The tissue was infiltrated with a 2-percent cocaine solution. The growth was removed with scissors and the hemorrhage checked by applying adrenalin solution. Twice each day the wound was washed and covered with a sedative ointment.

Vulvovaginitis in Little Girls

With Special Reference to Prophylaxis and Treatment

By William J. Robinson, M. D., New York City

Editor of the Critic and Guide, and of the American Journal of Urology; Author of "Never-Told Tales," "Sexual Problems of Today," "Sexual Impotence," etc.

VULVOVAGINITIS is a very common affection among children of the poor and those in institutions. In the latter, it used to be one of the commonest and most annoying troubles we had to deal with, one little girl having vulvovaginitis often infecting an entire ward or dormitory. In former years, the dangerously infective character of vulvovaginitis was not known, and, so, the infection was readily conveyed by towels, linen, toilet-seats, bed-pans, bathtubs, syringe-nozzles, thermometers, the nurse's hands, and in numerous other ways. In later years, very great improvement has taken place in this respect, the disease being considered as contagious as measles, and the greatest care being taken in isolating from the other inmates any vulvovaginitis-patient or -pupil. The leading hospitals now do not admit a female child to any of the wards without the presence or absence of gonococci ascertained by means of a vaginal smear, previously taken.

Etiology

I have not entitled this article "Gonorrheal Vulvovaginitis," and the reason for this soon will be apparent. Vulvovaginitis signifies simply an inflammation of the vulva and vagina, and it may be owing to various nonspecific causes, as, for example, uncleanliness, decomposing smegma, local decomposition of urine in case of incontinence, pinworms, and trauma from masturbation or attempted rape. Some varieties of this inflammatory process are caused by the pneumococcus or the diphtheria bacillus. There also is a catarrhal variety, which is exceedingly infectious, but in which the gonococcus can not be found.

Nevertheless, granting the great variety of causes giving rise to vulvovaginitis in children, the chief cause—indeed, the one responsible in the vast majority of cases—will be found to be the gonococcus. But here comes in a distinction—a distinction that I consider of great importance, namely: I maintain, as I have maintained for many years, that the gonococcus which is found in the vulvovaginitis of children is *not the same gonococcus* with which we have to deal in the ordinary gonorrhea of the male and the ordinary gonorrhea of the *adult* female. It may be that it is not the gonococcus at all, but a coccus which presents the morphological and cultural characteristics of the gonococcus, but, yet, its virulence is of an entirely different order; or, we will say, that it is the gonococcus, but of a different strain—which merely means begging the question.

I base my conviction upon two facts, as follows:

If the gonococcus in vulvovaginitis of little girls were of the ordinary variety with which we ordinarily are dealing, the disease would be of a much more severe character than it actually is, particularly so, if we take into consideration the delicate mucous membrane of the vulva and vagina of little girls. As will be seen, in the discussion of the symptomatology, vulvovaginitis in children very frequently is an extremely mild affection. If the virulent gonococcus were the cause, much more damage, much more pain, and much more inflammation would be the result.

Secondly, when a gonorrhea in a little girl is a result of intercourse, of rape, then the infection is of a much more severe character. Of course, the rejoinder may be made that here there is an additional element, namely, the trauma. However, there are many cases in which no trauma has been inflicted, in which no penetration has taken place, where there has been merely contact of the penis with the vulva, and, still, the inflammation is of a much more severe character than otherwise.

Symptomatology

Consequently, we are bound to conclude that the infective germ in the ordinary socalled gonorrheal vulvovaginitis in girls is a coccus having the morphological and cultural characteristics of the gonococcus, but possessed of much lower virulency.

Generally speaking, vulvovaginitis in children is a mild infection. A child may have it for several weeks or months withoug being aware of it, without saying anything about it, the diagnosis often being made by the mother, who begins to notice the creamy discharge on the girl's linen or underwear. And this is the principal symptom in little girls, thus

afflicted—the discharge. This discharge may be exceedingly profuse, covering the vulva, vagina, and cervix; looking through a urethroscopic tube or a small vaginal speculum, the cervix often is found bathed in a pool of creamy discharge.

There is this great difference between gonorrheal infection in little girls and in adult females, namely: while the adult vagina is extremely resistant to the gonococcus, a gonorrheal vaginitis being one of the rarest things in practice, the delicate mucous membrane of the child's vagina, on the other hand, offers little resistance to the gonococcus and frequently becomes inflamed and eroded. In severe cases, there is a simultaneous infection of the urethra, Bartholin's glands, and vulva, vagina, and cervix, and the child may complain of burning at urination, itching and pain around the vulva and anus, and slight pain in the abdomen. There may be a moderate rise in temperature, up to 101° F., and in some instances the attack is sufficiently acute to give rise to a chill and fever. A mild arthritis may set in within the first weeks of the infection, although as a usual thing it comes later on.

Complications

Very fortunately, the most serious complication of gonorrhea in the adult female, namely, inflammation of the fallopian tubes or salpingitis, is so rare in little girls as practically to be negligible. Of course, it is possible that a mild inflammation of the fallopian tubes does take place, sufficient to occlude the opening, though not severe enough to provoke any symptoms. This is possible, I say; still, as these patients present no subjective or objective symptoms, they cannot be diagnosticated.

This freedom from salpingitis is due to three causes: (1) The complete closure of the internal os offers quite an effectual barrier to the passage of the gonococcus; (2) menstruation, which is an important factor in favoring the growth and spread of the gonococcus, is absent; (3) coitus, which is one of the most positive and most injurious factors in causing salpingitis—the inflammation often making itself apparent almost immediately after a more or less stormy sexual act—is also absent here.

What is said about salpingitis also applies to peritonitis, the latter often being a consequence of the former. In the very few cases where it does develop, it generally is localized and followed by rapid recovery, unless too troublesome treatment interferes.

While, as stated, vulvovaginitis is a comparatively mild infection so far as its symptomatology is concerned, it nevertheless has a disastrous effect upon the child which is unfortunate enough to become a victim of the disease.

First of all, vulvovaginitis is an extremely long-drawn, persistent disease. It usually takes months, and these months may run into years, before a complete cure is effected. Second, relapses and exacerbations are quite common. Third, the treatment is a disagreeable one for the child, and occasionally is painful. Fourth, it has a disastrous effect upon the child's *morale;* most parents, though they may love the child most affectionately, look somewhat askance at it; and continuous vaginal treatment somehow or other has a humiliating effect upon the child, which begins to consider itself as an outcast, as something apart from other children. Fifth, the child's education many times is seriously, and permanently, interfered with, because often it must be taken out of school, whether public or private; while private tutoring is, of course, feasible for only the few. Sixth—and this is a point not sufficiently appreciated by the profession and the laity, but it is an important point nevertheless: vulvovaginitis in children has, unfortunately, a disastrous effect in *hastening the sexual maturity of the child.* Whether this is the result of the congestion of the organs produced by the inflammation or of the speculum-examinations, paintings, douches, applications, tampons, suppositories, and the rest, the fact remains that girls who suffer from vulvovaginitis in childhood become sexually mature considerably earlier than do normal girls of the same class, stratum, and climate, and their demand for sexual satisfaction is much more insistent. Seventh, a mild vulvovaginitis may be the cause of permanent sterility.

Prophylaxis

Thus, it will be seen that vulvovaginitis in a little girl is a calamity and that everything possible should be done to guard female children from contracting it. Every child, without exception, should *always* sleep alone. Under no circumstances should a child sleep with anybody else, be it a sister, a mother, a friend, a governess or a servant girl. People should be very careful in sending their children to spend a night or two with some friends. The friends may be all right, but, still, a friend of the friends or a relative of the friends may not be. I know of several

instances in which the origin of the vulvovaginitis could be traced to little girls' spending a week at the house of some friends where a boarder or relative was infected with gonorrhea. That children should be kept away from associating or playing with adults or other children who are known to have gonorrheal infection goes without saying.

The child's genitals should be inspected frequently by the mother, and scrupulous cleanliness, by means of frequent bathing, sponging with warm solutions, and powdering, should be maintained. The toilet-seats in school should receive special attention. The wooden seat is a menace, because often it harbors gonorrheal pus from either the female or male genitalia, while the only proper seat is one of the socalled U-shaped style, that is, in which the front is entirely open, like the letter U.

Treatment

The treatment of vulvovaginitis in little girls still is in a decidedly unsatisfactory condition. On account of the smallness and inaccessibility of the parts, thorough-going treatment frequently is impossible. The *noli me tangere* superstition, that the hymen is something sacred and must, under no circumstances, be ruptured, makes the treatment still more difficult. Strictly speaking, vulvovaginitis should constitute a hospital-disease, but, owing to the length of time required for a cure, this frequently is impracticable or impossible. However, a competent nurse or, barring that, a firm, intelligent mother, is a *sine qua non.*

The keynote of the treatment of the vulvovaginitis of children, as it is in gonorrhea in adult females, is gentleness. Whatever we do, we must do no harm, and certainly must do nothing that may favor an extension of the inflammatory process above the internalos.

In general, the treatment of vulvovaginitis in children consists in ensuring cleanliness and the employment of vaginal instillations and suppositories.

Locally, erosions, if any, must be touched up with silver nitrate or iodine. The vulva should be washed several times a day, depending upon the amount of the discharge, and protected with a gauze pad, over which a pair of drawers or knickerbockers which the child itself cannot undo are to be worn. The washing of the vulva may be done with just plain soap and water, or boric-acid solution, Burrow's solution or a 1 : 1000 chinosol solution may be employed.

Irrigation of the vagina should be done by means of a fountain-syringe having a small glass nozzle. About a pint of irrigating solution should be used at a time; the pressure should be low. The best solution for vaginal injections is a weak 1 : 1000 lactic-acid solution; or, a weak solution of tincture of iodine (1-2 to 1 fluid dram to a quart of water) may prove equally good. We do not expect to destroy all the germs by means of the vaginal injections; still, we do destroy some of them; besides, leaving the pus in the parts produces erosions and chafing, and gives rise to condylomata acuminata. So, even the mechanical removal of the pus does good.

Where an inspection of the vagina shows erosions (and no treatment can be satisfactory unless inspection is made with a small vaginal speculum—not a urethroscopic tube—and strong light), these must be touched up with a 10-percent silver-nitrate solution or with full-strength tincture of iodine.

After thorough douching, it is well to instil, in obstinate cases, 30 to 60 minims of a 5-percent protargol solution, or a 2-percent silver-nitrate solution. As conditions improve, the instillations need be repeated only once or twice a week.

While I have no use whatever for suppositories and bougies in male gonorrhea, they are of some value in gonorrhea in the female, and I often prescribe a small 2-percent protargol suppository having the following composition:

Protargolis	gr. 1-2
Acidi borici	grs. 5
Olei theobromatis	grs. 25

M. ft. suppos. No. 1. Dent tal. dos. No. 30.
S. One suppository at night.

From the use of kaolin or kaolin and yeast, I have abstained in little girls; first, because they are difficult of introduction and application; second, the powder forms hard concretions, which are difficult of removal (which is not the case with adult females).

Vaccines I do not use at all, for I have not found them of the slightest value. They frighten the child and cause it unnecessary pain, without producing the slightest beneficial effect. I am glad to see that other investigators are coming to the same conclusion.

The Story of a Head-Hunter

By Thomas E. Moss, M. D., Kevil, Kentucky

EDITORIAL NOTE.—During his years of service as surgeon in the Philippine Constabulary, and as a medical officer in northern Luzon, where he came into intimate contact with the savage tribes, Major Moss learned to know the head-hunting people as few men do. This story is a record of actual happenings, though told in fiction form.

THE mountainous interior of the Philippine Islands is inhabited by the wild tribes of the archipelago. Many things happen in those parts that are never heard of except by those whose duty calls them among those savages; and not even they unless, by reason of something they have done for them, they have gained their deepest veneration. Such was the case in this instance, for I had saved a great chief's life by an operation, for which I chloroformed him. The people thought I had killed him and then brought him back to life; for, they had seen him lying there without moving while I cut him open and then sewed him up again. Now these people looked upon me as a kind of deity, and they spoke of me as "the man who killed Carnao, then brought him back to life." But this is another story and is told merely to show how I learned things which no one else found out, nor ever will except through me.

Among these savage tribes, tragedies happen in men's lives, in which traits of character are shown well worthy of the esteem of any Christian, although most Christians condemn them without justly weighing the matter. Deeds of bravery, love, and fidelity are of almost daily occurrence with them.

Up in these mountains, these savages live in towns or villages so situated that it is difficult to approach them; for, nearly every such settlement is at war with every other community round about, because at some time or other they all have taken toll of lives from each other, until it has become a general feud. Indeed, it is a religion with them to take heads from each other. These savages do not scalp their victims, as our Indians do, but take the whole head.

At certain times of the year, regular head-hunting parties are organized, to raid some unfriendly town. The greatest effort to secure a head is made after the rice has been planted; for, it is their belief that, if no head is brought home at that time, the crop will be a failure. Then, again, when the rice has been harvested, is another time. In addition, their laws may require other such expeditions. It must be remembered that these people have as fixed laws as we have, and they must be obeyed strictly, inasmuch as these savages are extremely superstitious, and this urges them to live up to them.

The Kalingas are very superior to most of the other tribes, mentally as well as physically. They are very tall, lithe, and powerful fighters. The Kalinga towns are situated well up in the mountain range running parallel with the length of the eastern side of the Island. The Kalingas do not live in the foothills; these are the smaller mountains one sees as he leaves the level prairie which runs back from the Great Cagayan River that passes through the large stretch of country lying between this range of mountains and the range running along the eastern coast. This great plain is very fertile and is green all the year round, and here cattle, deer, and buffalo graze and find an ideal place to live. The cattle graze near the river, the deer back a little farther, near the strips of timber which grow on both sides of the little mountain streams that flow down and across the plain and join the Great River. The buffalo and wild boar live in the foothills.

On the banks of the Great Cagayan River are the cities of the civilized Filipinos. These all are Catholic Christians, although they do not show much Christianity in their dealings with the savages; and between the two peoples there is an undying hatred. For generations the Filipinos have abused the savages, stolen from them, and killed them at every chance. This bad feeling started by the Filipino hunters going out into the foothills to hunt and, instead of confining their hunting to deer and wild buffalo, they killed the tame herds of buffalo belonging to the savages.

In the city of Malilie, on the Cagayan River, lived a rich Filipino by the name of Pedro Sanchesmirro. This man was fond of deer hunting and frequently rode out into the foothills with a lot of his servants, to indulge in this sport. Every rich man always has a lot of servants of every description, from the boy whose duty it is to fan him to his hunters, who are the pick of them all. These hunters are kept in good condition and are supposed to look after the dogs, hunting-ponies, and spears. The lance is

18 feet long and has a sharp knife-like tip and a tapering steel handle to balance the long bamboo shaft. The hunting-ponies are very fleet of foot and love the chase as much as the men, and they need no urging when the deer break from cover, but are off like a shot the instant they catch sight of it, not waiting for the word of command. The deer graze on the prairie at night, but near morning go into the strips of timber which grow along the water courses. Into this timber are put the beaters and dogs, while the hunters take up positions back half a mile on each side of the timber, so that, when a deer breaks from cover in making for the mountains, it will have to run half a mile before reaching the line of spearmen waiting on their ponies, and consequently is a little wearied. The ponies then catch the deer within a mile or so.

When Pedro Killed a Chief's Buffalo

On one of the deer hunts undertaken, the game was scarce and luck poor; so, Pedro, the wealthy Filipino, decided he would make a raid on a herd of buffalo belonging to one of the Kalinga towns further up, but at that time grazing in the foothills. Pedro ordered his hunters to kill as many of the animals as they could. (Incidentally, these buffalo are afraid of Filipinos and are almost as difficult to get at as are the deer.) The hunters did as ordered, cut up the animals killed, loaded the meat upon their ponies, and went back to the town of Malilie.

Now, there happened to be a Kalinga boy watching the herd, and, when he saw the hunters coming, this boy hid himself and watched them kill the animals. As soon as the hunters had left, he hurried back to his home town and told the owner of the herd what he had seen. It so happened that the herd belonged to a great chief, whose name was Kalipowan. Hearing the boy's tale, he held a council, and it was decided that Kalipowan take a few of his head men, go to Malilie, and try to get the presidente to compel Pedro to pay for the animals. Accordingly, the next morning the chief and his warriors started upon their mission, arriving at Malilie late in the evening. The next day, the presidente appeared and opened his court, whereupon Kalipowan stated his case. However, Pedro Sanchezmirro, who was sent for, denied all knowledge of the matter. Crediting Pedro, the presidente ordered Kalipowan arrested and thrown in jail; but his companions were allowed to leave.

All prisoners, in the Philippines, are worked upon the streets and on the grounds of the town officials. Pedro, knowing this, asked the presidente to detail Kalipowan to clean

The tame buffalo.

up around his own house, his object being to get an opportunity to kill Kalipowan, for he was afraid to see him go free. So, Kalipowan was sent in charge of a policeman and made to work at the point of the bayonet. The guard was called into the house to have a drink of wine, whereupon Pedro shot Kalipowan, telling the guardsman that Kalipowan had tried to kill him and he had shot in self-defense. Kalipowan's wound was not immediately fatal, and he kept on praying to the spirits that they send his son to him, so that he might let his people know how foully he had been dealt with.

On the third night, as Kalipowan's eyes were growing dim, he seemed to feel that his prayer would be answered; for, he could hear the call of a mountain-nightbird close to the

window toward which he had his face turned, his cot being by the side of the wall where the night-breeze brought the scent of the mountains as the clouds came settling down from those heights which he knew he never would see again. The jail-guards, knowing that Kalipowan was dying, had gone to the farther end of the jail and were playing at cards and drinking wine. They did not hear the insistent call of the nightbird, which, during an outburst of drunken laughter, turned into the whispered name of "Kalipowan." The dying chief then knew that his supplications had not been in vain. With a superhuman effort, he rallied his fast-vanishing vital forces and pulled from his sash a little bamboo stick upon which he had carved in hieroglyphics a diary of all his humiliations and murder. The hand of his son was thrust through the bars, rested a moment upon his head, snatched the stick from his stiffening fingers, then vanished into the night. The guards played on, all unaware that the death-warrant of Pedro was swiftly speeding back to the mountains.

Kalipowan's son, Aguilan, made his way back to the mountains, and reached there just at daybreak; only, however, to find more trouble in store for him.

Dire Fate of a Headhunting Raid

When a headhunting expedition is organized by a town, the men are called together, a council of war is held, the town upon which the attack is to be made is selected (it may be the nearest town or it may be a town thirty miles away), and twenty or thirty of their best warriors are picked for the enterprise. Sharpening their spears and headaxes and preparing the rations for the journey, these warriors slip out of the town after sundown and take up the fateful march, and, if the journey is a long one, they hide and sleep in the thick undergrowth during the day; timing their travel so as to reach their destination just at daybreak, when the inhabitants are beginning to waken and emerge from their houses.

High up in these mountains, the natives do not rise very early, for the clouds fill the air, and it is unpleasantly cool, and therefore at daybreak only a few persons will be emerging from their houses; only those who have work to do get up before the sun comes out. This is why an attacking party chooses this time; for, if they waited until the whole town was astir, they would have little chance to take a head. So, they aim to reach the town when the morning dawns, then rush in, kill two or three early risers, cut off their heads, snatch them up, and run for their lives; thus getting a start of the inhabitants, who come swarming out at the first alarm. As a rule, the headhunters get away, but not always; many times a member of the expedition is left behind, dead.

As Aguilan reached the top of the mountain just above his town, he heard the headhunters' yell of triumph and knew that his town was being attacked. There was only one trail leading down to the town, and upon this Aguilan was standing. He could not see what was going on down there, the night clouds not having risen yet. The sun had not looked down there that morning, as it had for countless ages, and lifted the clouds above the mountain's top where Aguilan stood. He needed no eyes to tell him what was happening; he knew that at least twenty hostile men were stabbing and hacking some unfortunate townsman who had come out just in time to be met by a headhunting party.

Aguilan had his father's big war-spear and headax, for, on the little bamboo stick, which he had taken from his dead father's hand, was carved the information where Kalipowan had hidden them on the outskirts of Malilic before entering the town.

By this time, the whole town had turned out to fight the headhunters, whom Aguilan could hear coming up the trail. At this point

On the buffalo hunt.

the trail ran through a small V-shaped opening in the lava wall of this extinct volcano, in the kettle of which the town lay, and there hardly was room enough for one man to pass at a time through this V-shaped opening. Quickly determining upon a course of action, Aguilan seized a boulder and rolled it into the trail where it led through this narrow passage. The boulder did not completely stop up the opening, inasmuch as the crack ran upward a distance of fifty feet or more; still, it would make it more difficult for the oncoming headhunters to escape, because they would have to climb over the obstruction. Strapping his shield over his heart, he seized his big war-spear in his right hand and his ax in his left; then stood in wait.

The first headhunter reached the boulder within a few seconds and, thinking it had rolled there accidentally, quickly climbed to the top, only to drop down upon the deadly war-spear of Aguilan. The second one up paused a moment upon seeing the dead body of his comrade and the spear of Aguilan waiting for him; however, he could not stop, as his kinsmen behind were crowding, and pushing him in their endeavor to escape from the pursuing townspeople. Uttering a shriek of warning, he sprang down, only to meet the fate of the first one over. After this, Aguilan fought like a demon, stabbing and striking at the men as they poured over the boulder and sprang down. He had no time to ward off the spears and axes; he was trying only to kill as many as possible before he succumbed to the many wounds he was receiving. He was soon covered with gaping wounds, with the dead bodies of his enemies, fleeing from their pursuers in the rear, piling up about him.

Only a few of the headhunters escaped The dead bodies of those who had fallen on both sides of the boulder were carried into the town and laid in a pile, to be beheaded as soon as their own dead had been buried, and the wounds of those who were not killed had been dressed.

When the dead had been buried—each one under his respective house, as that is the custom among these people—the town-folk turned their attention to the pile of their dead enemies, and the cutting off their heads was the next ceremony. It is the custom to spread all the weapons of dead enemies out in a pile before the chief, for him to take his choice.

As he was thus looking over the weapons before him, the chief discovered among them Kalipowan's great spear and headax. At once all was in a turmoil of wonderment, for the people could not understand how a band of headhunters from a distant settlement could have in their possession Kalipowan's weapons. Then it was that a bloody figure arose from the ground and staggered into the arms of the chief, clutched the spear of Kalipowan, then fell to the ground. It was Aguilan, covered with wounds, and with only strength enough to point to his sash where lay hidden that little bamboo-stick with its story. Aguilan had lain in this pile of dead, not having been recognized in the early morning's light and the excitement of the fight. Aguilan, the hero, was nursed with every care the savages knew, but it was many months before he was well enough to walk about the town.

(To be continued.)

THE times are waiting for men who shall serve and not merely inquire; strive and not merely investigate; give to their age and their kind not so much learning in bulk as wisdom in action; great doing as the only true fruitage of great thinking; the consecration to the uplifting of one's fellow men of one's best, rather than the conserving by mere culture of one's self.—H. C. Potter.

The Basis of Cancer Therapy

By E. M. Perdue, M. D., Kansas City, Missouri

Professor of Preventive Medicine, Eclectic Medical University; Director of Johnson's Pathological Laboratory for Cancer Research.

DESPITE the great weight of authority to the contrary, the successful treatment of cancer depends upon its etiology and pathogenesis. For many years, in America, it has been the plan of organized medicine to cast discredit and the ban of professional ostracism upon any physician who presumed to proclaim the real cause of cancer, because the real cause of cancer being made known would discredit the surgical propaganda.

Cancer is a chronic alkaline intoxication caused by the retention and faulty elimination of body wastes. The essential factor in producing this alkalinity is, the retention of carbon dioxide. Carbon dioxide combines with the proteid substance of the tissue-cells and in turn binds the alkaline hydrates to the cells, in the form of carbonates. Both combinations result in freeing water from the tissues, thereby increasing the alkalinity.

All the tissues of the human body are colloids. Colloids are liquid, jelly-like or solid, in proportion to the amount of ionized water in combination with themselves.

In early life, the water content is very high. The tissues are soft, pliable, give off their wastes and assimilate nutriment readily. As age advances, these colloidal substances consolidate and give up water. As they give up water, the mineral substances in them become more concentrated. The alkalinity of the tissues tends to increase. Up to middle life, elimination is so active that this alkalinity does not rise above 0.85 percent, when measured by a solution of sodium chloride. Past middle age, some persons are inclined to constipation and low elimination by way of the urine. The ductless and sexual glands deteriorate in their functions, and, as a result, oxidation becomes deficient. Carbon dioxide is retained as a product of waste; it also is elaborated in a stagnant colon. It is absorbed by the tissues and the tissue-juices combine with the proteid substance and displace water. Then new combinations are formed with the alkalis and soon the condition of hyperalkalinity is attained.

However, this latter condition cannot go on indefinitely. There is a physiopathologic limit, which may be said to be physiologic for the cancerous or physiologic for the precancerous state. This hyperalkalinity may attain 1.0 percent, or even a little higher. Hyperalkalinity is the precancerous state Alkalinity is the condition of all growth or development. The trophic control of the human body is maintained at the physiologic 0.85 percent. Below this, ulceration is common. Above this, acute wounds heal by first intention. In the hyperalkaline state, persons are liable to cancer.

If we represent the proteid mixture of the tissue-cells by the symbol Pm, the colloid of tissue may be represented as follows:

$$Pm(OH\ H)_n,$$

and the combination of the colloidal proteid substance with CO_2, by the following formula:

$$Pm(OH\ H)_n + CO_2 \rightarrow Pm\begin{matrix}CO_2\\(OH\ H)_{n-1}\end{matrix} + H_2O.$$

The combination of this resulting compound with an alkali may be represented as follows:

$$Pm\begin{matrix}CO_2\\(OH\ H)_{n-1}\end{matrix} + Ca(OH)_2 \rightarrow Pm\begin{matrix}CaCO_3\\(OH\ H)_{n-1}\end{matrix} + H_2O.$$

These alkaline compounds of protoplasm are insoluble and irreversible. They tend to harden the tissues, dry up the fluids, store salts in the cells, alter the functions of the cells, and generally to produce the condition called senility.

Why Cancer Occurs Past Middle Life

For these reasons, the cancer-patient, besides being past middle life, is constipated, passes a small amount of urine low in chlorides and alkalis, has high blood pressure, low blood resistance, and a subnormal temperature. He has faulty nutrition and assimilation, defective elimination, his skin is dry and harsh and inclined to the formation of senile keratoses, especially if he be a blond. The alkaline intoxication is capable of concentration by evaporation; hence, the great predominance, in blond men, of epitheliomas above the collar and below the wrist-band. Epitheliomas are rare in brunettes, in the dark races, and in men and women who lead an indoor life.

This general constitutional condition of hyperalkalinity is the principal etiologic factor in the production of cancer or carcinoma. Add to this a chronic irritation of low grade, and by this stimulus trophic control may be

broken and hypertrophy of epithelium result. Chronic irritation determines the locus of the growth of the cancerous tumor. The tumor is but a local manifestation of the general constitutional condition. This chronic irritation never rises to the grade of acute inflammation. Acute inflammation destroys new growth. Chronic irritation, either local or reflex, is but a secondary cause. Hyperalkalinity is an absolute prerequisite.

Mammary Cancer

The most conspicuous example of the effects of reflex irritation is the prevalence of cancer of the breast in women who have suffered a laceration of the cervix uteri. This sometimes is the secondary cause of the location of a cancer in the uterus, but much more frequently of cancer of the breast. The uterus is very resistant. During the reproductive period, nature permits no interference with its functions. When the cervix is lacerated, it contracts on the scar. The rectum, in sympathy, also contracts, loses tone, fails of peristalsis, and becomes constipated. The breasts, in response to the uterine irritation, are reflexly irritated. After the termination of the reproductive period, their normal function of hypertrophy sometimes is changed to a lawless hypertrophy.

The direct irritations which are the secondary causes of cancer are very numerous. Exposure to the weather, the wearing of glasses on the bridge of the nose, bows of glasses behind the ears, the shaving of a mole, pressure on a wart, senile keratoses, the pipestem on the lower lip, the prodding of the breast by the broom-handle, bumping against the bed-post, mastitis, sunburns, fever-blisters, and a great many other conditions which do not rise to the severity of acute inflammation.

The Rational Treatment

In addition to removal of the causes of cancer, rational treatment depends upon other factors, as follows:

The cancer-cell has greater proliferating vitality than the normal cell.

The cancer-cell has less resisting vitality than the normal cell.

The cancer-cell can be killed by acute inflammation.

In view of the foregoing well-established facts, the rational treatment of cancer embraces the following:

Elimination, alvine and general: In order to overcome the cancerous condition of hyperalkalinity, it is necessary that the bowels be made to get rid of all the poisons possible and that they no longer be the source of absorption of noxious products of putrefaction. It is necessary that there be a complete evacuation of the colon at least once every twenty-four hours. To the trained prescriber, the whole field of materia medica is open. It is not enough that the bowels be loose, they should exercise all their functions of elimination.

The output of the kidneys must be increased, from the prevailing 250 to 500 Cc. of the cancerous subject, to 1500 to 2000 Cc., and be maintained at these figures. Medication must serve to increase the mineral output and decrease the alkalinity of the system.

Nutrition: Treatment must be given looking to an increase in the appetite, the improvement of the digestion, and the proper assimilation of food.

Oxidation: In the cancerous condition, the blood is depleted, is deficient in hemoglobin and in oxygen-carrying power. The approach of old age in cancer-patients is coincident with defective action of the ductless and sexual glands. The colloidal compounds in the cancerous condition are irreversible and insoluble. They must be broken down by oxidation before they can be eliminated. In addition to the well-known remedies employed to improve the blood, the gland-extracts may be given to reinforce the hormones of oxidation.

Destruction of the cancerous tumor: The constitutional cancerous condition being removed, there remains the destruction of the cancerous tumor. The cancer-cells of low resistance can be killed by heat, by refrigeration, by the inflammation of caustic chemicals, and by the inflammation of an acute infection. The virtue of these methods is, that they kill the cells of the tumor and create such an area of inflammation in surrounding tissue as to destroy any outlying cancer-cells.

The most useful methods are, electrothermal coagulation for inaccessible cancers, cancers of membranes whose secretions wash chemical caustics away, or where the absorption of caustics would endanger poisoning. Electrothermal coagulation is the method of choice in cancers of the tongue, inside the cheek, and of the uterus.

The chemical caustics are to be preferred on the exposed and accessible parts of the body, for all the reasons of readiness of application, assurance of permanent cure, cosmetic effect, and conforming to the desires of the patient. They should be applied heroically, to produce the acute inflammation

that is the basis of the successful local treatment of the cancerous tumor.

Our conclusions may be summed up as follows:

1. Cancer is a chronic alkaline intoxication.
2. The locus of the tumor is determined by chronic irritation, either direct or reflex.
3. The cancerous condition must be corrected by means of elimination.
4. The cancerous tumor must be destroyed by inflammation.
5. Inflammation is best secured by electrothermal coagulation and by chemical caustics.

The Physician's Microscope

Its Construction, Preservation, Use and Application

By A. H. Uhler, M. D., Rochester, New York

[*Continued from Page 536, June Issue*]

The Fine Adjustment

THE fine adjustment is the next thing to be considered; and it is the more important of the methods of adjusting the microscope. It should respond readily to the least turn of the controlling micrometer-head, should cause no lateral displacement of the object, and should remain in adjustment even if the table on which the microscope rests is jarred.

For ordinary work, a vertical movement of 1-50 inch (0.5 mm.) for a complete revolution of the micrometer-head is too fast. It should be 1-120 inch (0.2 mm.); but for photomicrography and work with immersion-objectives of 1.35 to 1.60 NA, it should have a vertical movement for a complete revolution of 1-120 inch (0.125 mm.) to 1-300 inch (0.100 mm.). A movement of 1-625 inch (0.04 mm.), on the other hand, I consider to be so slow as to be trying to one's patience.

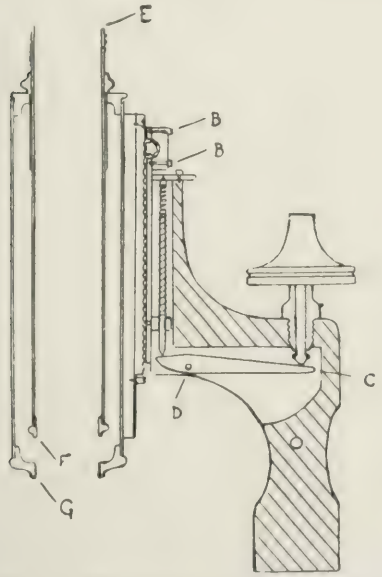


Fig. 13. Fine adjustment—horizontal lever form.

There are in use a great variety of fine adjustments, among them, the horizontal lever form (Fig. 13); the vertical lever form (Fig. 14); the Campbell's differential (Fig. 15); the stage fine adjustment (Fig. 16); the nosepiece fine adjustment (Fig. 17); the Continental fine adjustment, originated by Oberhauser (Fig. 18); Swift's latest pattern (Fig. 19); the Zeiss-Berger pattern (Fig. 20); Leitz's side fine adjustment (Fig. 21); Reichert's side fine adjustment (Fig. 22); and last, though not least, the Males-Watson two-speed fine adjustment (Fig. 23). Of all of these, those illustrated in Figures 16, 17 and 18 are to be avoided, whereas all the others can be highly recommended, especially the horizontal and the vertical lever fine adjust-

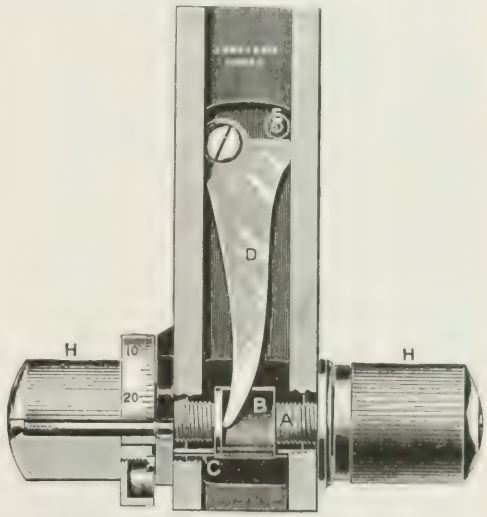


Fig. 14. Fine adjustment—vertical lever form.

ments, which have now become quite popular in this country. For the actual details of the individual fine-adjustment mechanisms, the various manufacturers' catalogs should be consulted.

The Microscopic Stage

I shall now give the details of a perfect stage and then pass on to the other parts of the instrument.

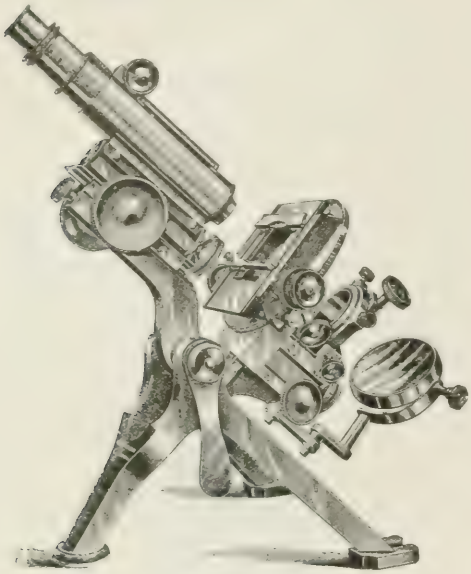


Fig. 15. Showing Campbell's differential.

The stage should be large; if circular, 125 mm. in diameter; if square, about 100 × 100 mm. It should be sufficiently thick, so that bending will not take place upon pressing any part of its surface. It should be vulcanite covered, so as to render it acid-proof. Blackened brass stages become very unsightly through wear, and are attacked and turned green by nitric acid. The stage should be acid-proof. There should be *at least* a distance of 80 mm. (not 75 mm.) between the front of the arm and the center of the stage, for the proper accommodation of a petri dish 150 mm. in diameter or a large brain section or serial section. Stages are also made to revolve, and with centering screws, so that their center can be made to coincide with the optic axis. A mechanical stage may be affixed on its upper surface or it may be constructed so that it can be removed, leaving the plain surface of the stage exposed. The mechanical stage is operated, usually, by two diagonal rack and pinion milled heads, which preferably should work on one axis. These cause the object to move from front to back over the surface of the stage and from side to side, depending upon which milled head is turned. A vernier with appropriate graduations should be supplied.

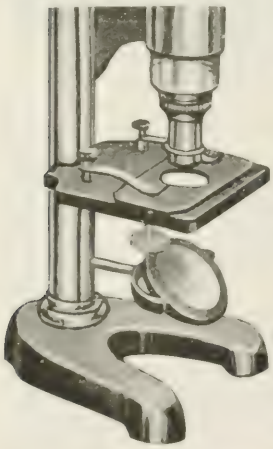


Fig. 16. Stage fine adjustment.

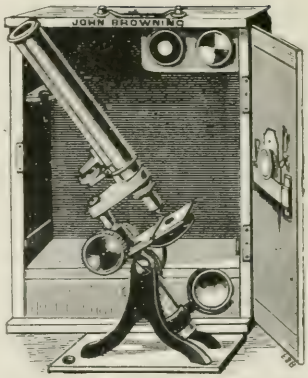


Fig. 17. Nose-piece fine adjustment.

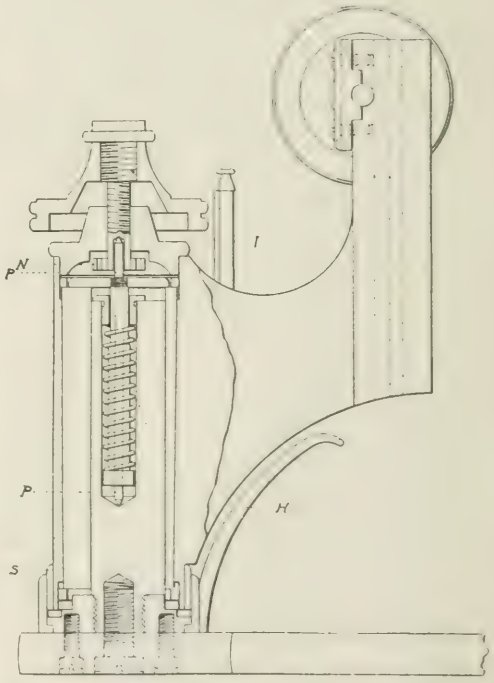


Fig. 18. Continental fine adjustment.

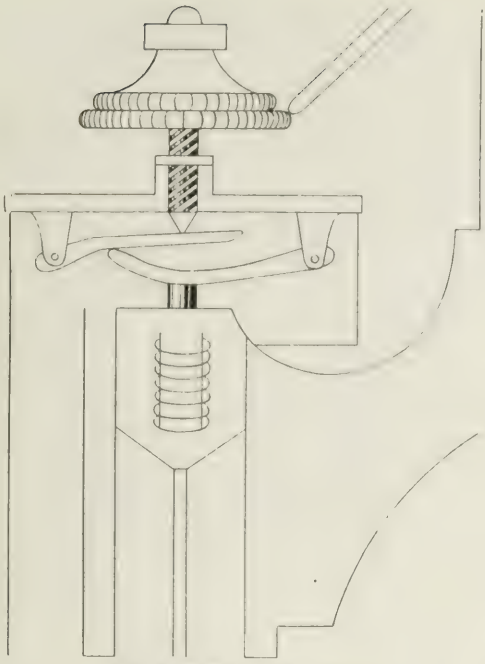


Fig. 19. Swift's latest pattern.

The spring clips usually are fastened to the upper surface of the stage and should be of German-silver or some other semiflexible material, so that the object can be moved beneath them with ease and yet so that they will hold the glass slide firmly when it is left in any position. The tail-piece is simply a metal bar which drops from the back part of the stage beneath and to which the substage is affixed by its various adjustments. It should be long enough to give sufficient range of adjustment for the rack and pinion of the substage. It should be perfectly rigid and firmly affixed to the underneath part of the stage. The tail-piece is used chiefly for this form of substage; a shortened modified form being used where simply the upper end of the mirror bar only is attached, as is the case when the substage consists of a simple underfitting or of the quick-acting screw variety in the cheaper models.

The substage is so named from being located immediately under the stage. It is in some respects the most important part of a microscope. There are six different forms of substages in use at present, as follows:

a. Simple slotted tube, screwed to the middle and under part of stage, known as an underfitting.

b. The quick-acting substage, focused by an endless screw attached beneath and to one side of the stage.

c. Spencer's oblique light No. 1, which is a modified Abbe illuminating apparatus.

d. The Abbe illuminating apparatus, being the best German rack and pinion substage.

e. The English form of rack and pinion substage, with centering screws and sometimes a fine adjustment.

f. A combination of the Abbe illuminating apparatus and the English form, that is, rack and pinion substage, with centering screws for the condenser, and immediately beneath it an iris diaphragm which swings out of the optic axis, and which can be thrown out of centrality by means of a rack and pinion arrangement for oblique light effects. This is a most valuable arrangement for testing objectives and, therefore, very handy to have on any microscope-stand.

The rack and pinion of the substage and its fine adjustment and other parts should be

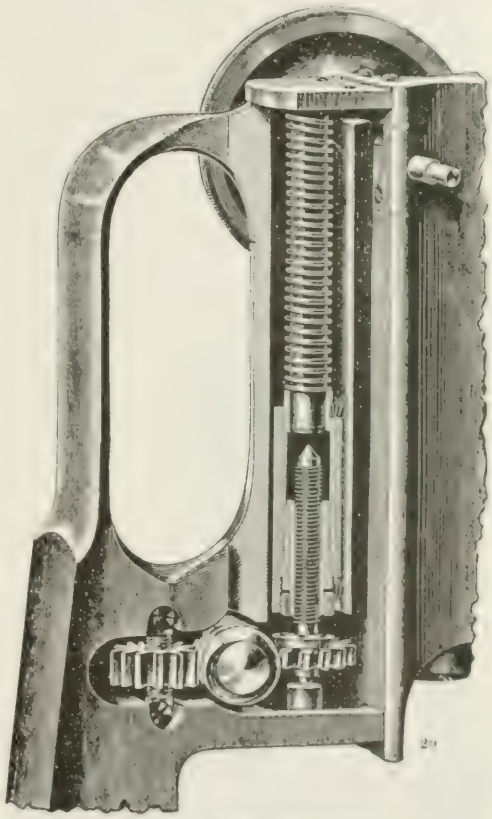


Fig. 20. Zeiss-Belzer pattern.

as perfectly fitted as the coarse and fine adjustments of the microscope itself. The internal diameter of the substage ring into which the condenser is fitted should be 38.786 mm. (1.527 inch), which is the Royal Microscopical Society's standard. The mir-

ror and the bar on which it hangs should be so mounted that it can swing freely in all directions. We even prefer this in connection

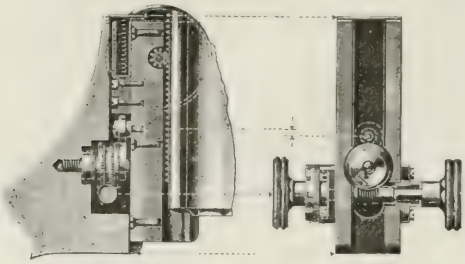


Fig. 21. Leitz fine adjustment.

with the Abbe illuminating apparatus. However, be this as it may, the mirror should be plain on one side and concave on the other, and of large diameter; a large-diameter concave mirror being a great convenience for concentration of light with low and medium powers.

The Foot of the Stand

The foot of the microscope may be of the horseshoe type or a tripod, or it may be a simple round disk of metal. As made at the present time, the horseshoe foot has several drawbacks. First, it is often made too narrow, so that, if the microscope is accidentally struck on one side, the instrument is very liable to topple over; also, when the microscope is very much inclined and, say, a 3-inch (75 mm.) objective is in focus, the instrument is liable to fall backward, striking the eyepiece against the table and damaging the eye-lens of the ocular.

The horseshoe foot will never be made properly until it is made to rest on three points equidistant from each other and equidistant from the center of a circle, the circumference of which passes through these points, and when the upright pillar is mounted on such a point that there is an equal distribution of weight. For my part, therefore, I consider the tripod best, as it fulfils these

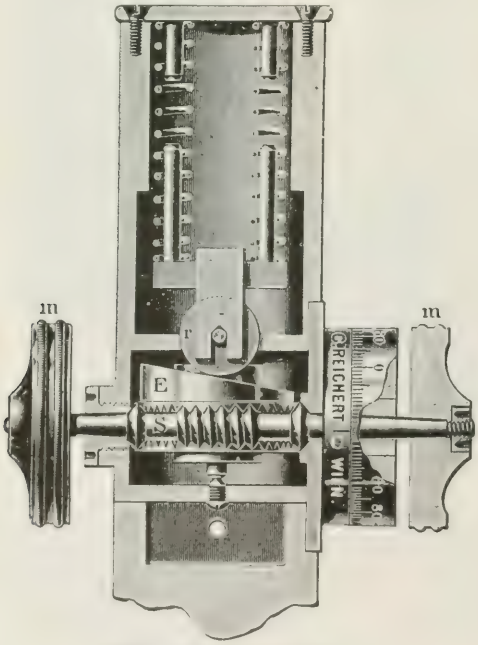


Fig. 22. Reichert's fine adjustment.

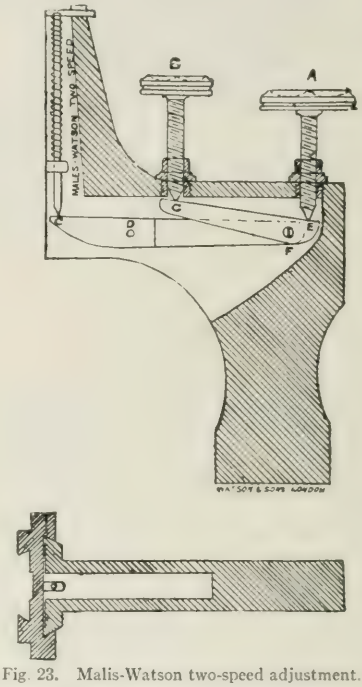


Fig. 23. Malis-Watson two-speed adjustment.

conditions in the most perfect manner; however, a simple flat metal disc could be made small enough for portability and yet large enough for stability; and this, after all, seems the best compromise, as it is easy to manufacture. The horseshoe foot, also, has another great defect, especially in the higher-priced stands, and that is its extreme weight, which makes the stand unduly heavy. I think the horseshoe foot could be improved by making it lighter in weight and shaped like the letter "Y," which would virtually convert it into a small compact flat tripod.

The joint and clamp for inclination need no description. The trunion should work smoothly and yet very firm, so that the upper part of the instrument will remain as placed and not fall back gradually into the horizontal. The clamping lever is useful in altogether doing away with this tendency to fall.

How to Select a Microscope

In selecting a microscope, the purpose for which it is to be used must always be borne in mind. If intended for elementary examinations, a stand with a rack and pinion adjustment, a large stage, and an arm-axis distance of at least 80 mm. will be needed. Such an instrument is excellent for examining plate cultures, colonies, and so on, of living microorganisms. The Spencer No. 74 is a stand of this character. If, however, a cheap stand for urinary work be desired, the inclination joint can be dispensed with, and a stand with only an iris diaphragm some little distance beneath the stage can be used instead. Such a stand is Spencer's No. 72, also Watson's noninclinable microscope. The Bausch & Lomb Optical Company no doubt would be willing to furnish their stand F without inclination joint at a lower cost.

For the routine work of the physician I would suggest that the Continental model has seen its day. A stand with a large arm to axis distance of 80 mm., a side fine adjustment, and at least a quick-acting substage should be employed. Such instruments are the Bausch & Lomb F S and F F S, the Spencer Nos. 64, 44, and 25; Watson's Standard, and the Edinburg student's stand H, and similar stands. If, however, a higher type of instrument be desired, I would suggest a stand with an Abbe illuminating apparatus, or, better still, with a substage which has, in addition, centering screws to the condenser.

For photomicrography, a microscope with a large body and very slow fine adjustment is very desirable, which stand can also be used for the most critical bacteriological and hematological research.

To sum up, then, the qualities of a good microscope for the physician should be:

1. Handle arm that can be grasped without injury to the fine adjustment.

2. Side fine adjustment 1-250 inch (0.125 mm.) for a complete revolution of the adjusting head.

3. Distance between center of stage and front of arm of at least 76 mm. and better if it is 90 or 100 mm.

4. Long working distance of 1 mm. for the 4-mm. objective whose aperture should be about 0.65 to 0.75. There is nothing to be gained by having a higher Numerical Aperture for the dry objective where a 1-12-inch (1.8 mm.) oil immersion objective is purchased on the same stand.

5. Large vulcanite-covered stage, 100 × 100 mm. or, if a round, concentric, rotating stage, 125 mm. in diameter.

The fine adjustment should cease operating when the objective rests on the cover glass.

The microscope for the physician should have the stage iris-diaphragm eliminated, as it serves no useful purpose and is an everlasting source of annoyance, it being very likely to become gummed with cedar oil, which dries on the leaves, causing it to stick.

(*To be continued.*)

[CORRECTION.—Doctor Uhler calls our attention to two mistakes made in his article last month, as follows: Figures 1 and 2 were transposed, and Figure 3 is wrong side up and should be labeled "Body-tube and nosepiece." Please note.—ED.]

WE can make and keep this country worthy of the men who gave their lives to save it, only on condition that the average man among us, on the whole, does his duty bravely, loyally, and with common sense in whatever position life allots to him.—Theodore Roosevelt.

What Others are Doing

SOME FACTS ABOUT THE HEROIN HABIT

That the heroin habit has been greatly on the increase in recent years has been realized by the medical profession, but the full extent of the growth of this form of habituation is only appreciated by those coming in contact with the denizens of the red-light districts of our great cities.

Clifford B. Farr, in his service at the Philadelphia General Hospital, has had occasion to treat many of these cases, and in a paper published in *The New York Medical Journal*, May 1, 1915 (p. 892), he gives some interesting statistics showing the growth of this and other narcotic habits. For instance, in 1911, 5 patients suffering from the cocaine habit were admitted to the hospital, 29 opium and morphine addicts, and 1 heroin addict. Since that year the number of cocaine habitues has diminished to 3 in 1914, and none at all in 1915, while the number of opium and morphine addicts increased to 66 in 1914, and 136 in the first 68 days of 1915. In 1914, 28 cases of heroin addiction were treated in the hospital, and in the first 68 days of 1915, 86 cases of heroin addiction. In other words, the proportion of heroin addiction to opium addiction has increased from 3½ percent in 1911, to 63 precent in 1915.

In five years, 1911 to 1915, inclusive, 130 cases of heroin addiction have been treated, 91 of these being men, and 29 women. A large proportion of these patients were young, most of them in their twenties. It is significant that practically all these heroin addicts were denizens of the tenderloin. *In not a single instance did a patient report that the drug had been prescribed by a physician.* Nearly all of the patients acquired the habit from associates. They blamed it on "parties," "girls," "fellows," "friends," and the like. One boy learned it while acting as an errand boy; another while at school, buying it from a chocolate vendor. A few began it to overcome hallucinations induced by cocaine, and others substituted it for cocaine on account of the difficulty of procuring the latter drug. *Only two patients pretended that there was any sufficient reason for beginning its use.* Heroin addiction is a vice addiction, pure and simple, at least as observed by Doctor Farr in Philadelphia.

One patient took the heroin by mouth, one by hypodermic injection, and all the rest used it as a snuff. In most cases 1-6-grain tablets were employed, and it is of interest that all the drug was obtained, directly or indirectly, from one or two dealers who, in order to protect themselves, sold it to "registered" persons only.

The dosage employed by some of these addicts was enormous: 17 patients were using 100 pills (16-2-3 grains) daily; 5 persons used 200 or more pills a day, the maximum daily dosage taken by any one person being 54 grains.

THE ETIOLOGY OF RICKETS

There has been a good deal of theorizing relative to the etiology of rickets. About all we know about it is that when this disease exists, there is some serious defect in calcium metabolism, shown by the inability of the body to utilize this salt, which, as a rule, is present in the food in sufficient quantity. After analyzing various hypotheses, Leonard Findlay, of the Royal Hospital for Sick Children, in Glasgow, after a statistical study of 400 or 500 rachitic children, has come to the conclusion that the disease is induced by two factors, i. e., confinement and deficiency of fresh air. From his experiments he has found no evidence that deficiency of fat or any other dietetic error is a factor in its etiology.

As is well known, rachitis is very common among animals in confinement. There is only one zoological garden, at least in Europe, says Doctor Findlay, where rachitis does not prevail, and that is in the one belonging to Hagenbeck, situated on the outskirts of Hamburg, where the conditions are made to simulate the natural homes of the animals, permitting of their being allowed to roam about freely in parks enclosed by high railings. This fact supplied the key to Doctor Findlay's careful investigations and analysis of rachitic children of his own city and country.

In his studies the following points were investigated: (1) the length of time the child was breast-fed; (2) order of the child in the family; (3) the condition of the bowels previous to the onset of the trouble; (4) the amount of air-space in the house allowed to the child; (5) the number of stairs to the rooms occupied; and (6) whether or not the child had been taken much out of doors.

As already stated, an examination of the results obtained from this investigation show very definitely that the disease is proportionate in its occurrence to the amount of air-space allotted to each child, and that as this is diminished, the incidence of the disease rapidly increases. In other words, the two vital factors in its production are (as already remarked) confinement and deficient fresh air.

SOFT-SOAP INUNCTIONS FOR CONSTITUTIONAL DISEASES

After a cursory review of the literature on the employment of inunctions with soft soap for combating various constitutional diseases, particularly glandular tuberculosis—in which "brilliant results are recorded"—F. Kuelbs, of the First Policlinic of the Charite Hospital at Berlin (Priv. Counc. Dr. His, director), who, in view of the excellent results secured with this procedure in organic diseases, thought of applying it in those conditions in which local as well as general symptoms have been found to yield to stimulation of the skin, tells of his experience in the *Therapeutische Monatshefte* for October last.

Doctor Kuelbs directed his efforts principally against nervous cardiac disturbances, respiratory diseases (notably chronic bronchitis, emphysema, bronchial asthma), gastro-intestinal disturbances of the order (largely) of nervous dyspepsia, and inveterate hemicrania (5 cases). More than 200 patients were subjected to this inunction-course, of 4-weeks, 8-weeks, or longer, duration, with appropriate intervals between.

So far as could be ascertained, no deleterious side-effects occurred, while not once (contrary to the natural expectation) was eczema or other dermatic irritation seen; also, no changes in the condition of the circulation took place (temperature, pressure, cell count, hemoglobin content, pulse frequency).

The most striking effects were obtained in the category of heart disorders and the obstinate hemicranias. Three months had passed without renewed attacks. The distressing symptoms of the cardial neurosis diminished, and the patients became more capable of physical exertions. In the case of the gastro-intestinal disturbances, the spells of vomiting grew less, other local symptoms gradually improved, and appetite became decidedly better. As to the diseases of the respiratory tract, dyspnea diminished and bronchitis improved both subjectively and objectively; while the 3 permanently improved cases out of 10 treated do not promise material benefits in this direction.

TECHNIC OF SYSTEMATIC SOFT-SOAP INUNCTIONS

The manner of making systematic inunctions with soft soap, as discussed in the preceding paragraph, is described by Doctor Kuelbs as follows:

Proceed as is customary in the mercurial inunction cure, attacking seriatim in regular rotation the various portions of the body—the arms, the legs, and the two aspects of the trunk—providing a 6-day course. Use about a tablespoonful of soft soap [the linseed-oil and potassa "green" soap of the U. S. P. virtually is identical with that of the Ph. Germ.], distribute it over the area, continue gentle friction for five minutes, allow the application to remain in place for five minutes, and then wash it away with a sponge and lukewarm water. When dealing with a tender cuticle, it is well to apply dusting-powder. Wind up by covering (until the next-day's treatment) the part (whether limb or trunk) with a light flannel bandage; a measure most practicable when the procedure is executed in the evening.

PERCUTANEOUS USE OF SOFT SOAP FOR SCROFULA

Scrofula is a name, bequeathed to us by a race of observant predecessors, over which the taboo of modern authority has been spoken, yet, which seems a handy one and fills a useful niche in medical terminology; indeed, our wise men are not as yet a unit in the assertion that the conditions it has covered are merely tuberculosis of the lymphatic glands. Be that as it may, "scrofula" has occupied an important place in medical thought and literature, and the following historical notes, as presented by F. Kuelbs in his article mentioned above (loc. cit.) in a measure are based upon that conception.

*The author cites contributions published as follows: *Berl. Klin. Woch.*, 1878, 1879, 1881, 1882; *Munch. Med. Woch.*, 1899; *Aerztl. Intell.*-Bl., 1882; *Ther. Monatsh.*, 1901; *Ther. d. Gegenw.*, 1910; *Beitr. z. Klin. d. Tuberc.*, 1905; *Jahrb. f. Kinderh.*, 1880; *Schmidts Jahrb.*, Bd. 52, besides several textbooks and monographs.

It is this and similar work that underlies the author's personal experience with the percutaneous use of soft (or, green) soap, a therapy which he calls "brilliant" in its results in treating conditions of that nature. We translate this material more or less closely, in order to insure clearness.

As early as in the year 1846, these soap-rubs were recommended by C. A. W. Richter for scrofula and tuberculous diseases. Seemingly, though, Richter's idea found no imitators, and it fell into oblivion. Some thirty years later, Capesser, ignorant of Richter's proposition, had occasion to apply the favorite green-soap course for scabies in a boy afflicted with scrofulous glands; when it came to him to try systematic inunctions with this soap against that condition. Consequently, he prescribed semi-weekly soap-rubs over the entire body, continued for ten minutes, then to wash off and dry. Results being extremely gratifying, Capesser extended this practice widely to sufferers from grandular tuberculosis and to scrofulous children in general. Publication of his results was followed by the adoption of this therapy, and confirmation of its value, by Hausmann, Klingelhoefer, Koermann, Hollmann, and many others.

Hollmann, especially, had excellent results in the case of several convicts suffering from severe carious affections. He declared having had better success with this therapy than from the then popular codliver-oil dosing and inunction.

Thereafter this treatment was elaborated more particularly on the surgical side, and in 1899 was warmly recommended by Hoffa for tuberculosis of the glands, his observations covering more than 200 cases, his patients quickly regaining appetite and improving all around, while there occurred a rapid resorption and regression in tuberculosis of the joints and of the glands. His modified method consisted in using common alkaline soap and leaving it on the skin for at least half an hour.

Two years later, Rohden employed a combination of codliver-oil soap and potassium iodide (soon exploited as "dermosapol"), finding it efficacious in tuberculosis bone fistulas, joint affections, and lupus. Then Czerny used socalled white alkaline soap (or, "silver-polish"); also combining this with an equal part of potassium-iodide ointment in tuberculosis of joints and bones. More recently, Kausch has reported upon his successes with this treatment, who finds it to act similarly as do the warm saline-springs baths in tuberculosis. He rubs the soap in for ten minutes and washes it away thirty minutes afterward.

DANGER OF NARCOSIS FOR OPERATIONS UPON DIABETICS

Entirely aside from the intrinsic risk incurred from larger operations in the case of persons afflicted with diabetes, M. Labbé, of Paris, calls renewed attention (*Presse Med.*, 1914, p. 388) to the danger threatening from the employment of anesthesia, by virtue of the condition of acidosis produced by the narcotics. In this respect, chloroform is the most dangerous agent, and should be taboo; but ether, while less so, likewise gives rise to acetone in the blood. The least dangerous, the author avers, is ethyl chloride. Even in the intraspinal anesthesia the formation of acetone is not entirely excluded.

This knowledge, the author comments, should forbid any surgical intervention in diabetic subjects except under most urgent circumstances, and then fullest precautions should be taken. By means of proper dieting, hyperglycemia is to be removed or minimized, and any existing acidosis must be combated by a diet of dry vegetables, oats or milk. Preceding the operation as well as following it, the patient is to be alkalinized by means of sodium bicarbonate, either internally or administered intravenously.

MODE OF ACTION OF SOAP INUNCTIONS IN SCROFULA AND OTHER CONSTITUTIONAL DISEASES

After telling what good results he, like others before him, has obtained from the dermatic use of soft soap in scrofula and various constitutional diseases, F. Kuelbs (*loc. cit.*) endeavors to find an explanation of the mode of action of this therapy, but starts with the bald declaration that he is not able to give a reason, any more than the others who employed it.

Three explanations seem to present themselves to all the speculators: stimulation or irritation of the integument, or nerve stimulation, or neutralization of some systemic acidity (say, lactic acid). The stimulation-idea would fit easiest in the case of respiratory affections, inasmuch as here any kind of stimulation is beneficial, as, for instance, baths, massage, hot air; the essence being, improvement of skin activity. The same might, perhaps, betrue for the cardiac disorders that improved; for here also hydriatrics are of value in a measure.

Still, simple local treatment as the factor seems to be excluded; for, 30 patients, selected at random and with exclusion of any suggestive influence, were rubbed with colored fat, petrolatum, and boric-acid unguent, but seemingly with negative result.

Strongly doubting our ability, with our present resources, to trace the organic activities under this treatment, nevertheless, the author inclines to side with the view of several writers, that fundamentally an aroused activity of the cuticle promotes a healthy metabolism—which says a great deal, and, yet, in truth, so little. He has not undertaken tests in this direction. As to the acidity-theory, he has no convictions.

Altogether, Doctor Kuelbs feels that, in the purely practical results, air-baths, sun-baths, and local hydrotherapy well parallel soft-soap inunctions; nevertheless, he would advise trials of the latter for the purpose of influencing the skin and the entire organism; inasmuch as this therapy offers an exceedingly simple and convenient measure in the numerous functional disturbances confronting the every-day practitioner, promising not alone to cure local troubles, but to restore general health. Nothing novel in principle, still, a new, simple, cheap, practically proved curative agency.

SALVARSAN IN SCARLATINA

Having sufficiently tried salvarsan, intravenously administered, in scarlet-fever, F. Glaser (*Deut. Med. Woch.*, 1914, No. 38) reports his deductions as follows: In a large percentage of cases, the scarlatinal diphtheroid throat condition disappears. Frequently the fever and hebetude are beneficially influenced. In toxic cases, no influence is exerted. Complications are not prevented. In more than 50 percent, a dosage of 0.1 Gram per kilogram body-weight brought on rigors, diarrhea, and vomiting.

ACUTE BACILLARY ILEOCOLITIS

A very important paper upon this subject is contributed by Dr. Philip F. Barbour to *The Journal of the Tennessee State Medical Association*, March, 1915 (p. 446). Special interest is found in Doctor Barbour's discussion of the treatment of this condition. Regarding intestinal antiseptics, he says: "Therapeutic nihilists claim that they are absolutely worthless; optimists expect to accomplish wonders; but the truth lies somewhere between these extremes. While one cannot make the intestinal tract aseptic and sterile, he can at least lessen the bacterial activity. Certainly one can lessen the fetor of a typhoid stool, and dilutions of antiseptics which will not kill the bacteria will inhibit their growth and activity."

Doctor Barbour discusses the relative value of different intestinal antiseptics, and finally makes the statement that, in his experience, the sulphocarbolates of lime, soda and zinc are more valuable and more satisfying than other preparations of this class when used for the purpose of disinfection.

Doctor Barbour also writes in a very interesting way of the planting of antagonistic bacteria in the bowel, for the purpose of limiting the effects of pathogenic bacteria. "By using the Bulgarian lactid-acid bacillus," he says, "a degree of acidity may be achieved in the intestine which will prevent or inhibit the growth of nearly all the various intestinal flora. Many reports of a most glowing character have attested the value of this simple method of treating the various infections in the intestinal canal. The administration of the tablets of the standard preparations of the Bulgarian bacillus is easy and the results are most satisfying. Some authorities make use of them and take no precautions about diet or anything else. It would seem best to use all the means available and not to confine oneself to one alone."

We regret that we lack space for the presentation of Doctor Barbour's fine paper in its entirety. It is one which deserves reading and rereading. Its practical value to the practitioner called upon to treat alimentary infections of the child during the summer season can hardly be over-estimated.

SYMPTOMS OF UNDERFEEDING IN CHILDREN

Valuable suggestions regarding underfed children are given by Isaac A. Abt, in *The St. Paul Medical Journal* for April, 1915 (p. 291). For instance, the following symptoms are described: The regular weight-curve ceases, depending upon the degree of underfeeding. The weight-curve becomes horizontal or falls gradually. The abdomen sinks in and the muscles become relaxed. The skin becomes pale and lies in folds. Patches of eczema may occur. The temperature may remain normal, or in some cases it may become sub-normal. The heart's action may become slow, thus showing the effects of the underfeeding, and a slow pulse is a frequent clinical observation.

The psychic state and the appetite are variable. In older infants who are underfed we note great unrest. They cry almost constantly, and indicate a desire for food. Infants who put their fingers in their mouths and make sucking movements, and show a facial expression of desire, and move their heads forward and back as though they wanted something, we may safely assume are hungry. On the other hand, some underfed infants fall into an apathetic state. Such children lose in weight, and have no appetite.

Ordinarily the underfed baby is constipated; occasionally he vomits. It is a fact that cannot be too strongly emphasized, however, that underfed breast babies may suffer from diarrhea, and that not infrequently such babies may do better if they are given sufficient food instead of too little.

BACILLUS BULGARICUS IN DIABETES

We find another paper upon this subject by Dr. Philip Horowitz, in *The New York Medical Journal* of May 1, 1915 (p. 898). He analyzes a contribution upon this topic, published in *The Journal of the American Medical Association* for February 6, 1915. The writer of the latter paper gave records of four cases of diabetes, treated for a period averaging between two and three weeks. The results obtained with the Bacillus bulgaricus cases were said to be unsatisfactory.

Doctor Horowitz, in preceding papers, has emphasized the importance of combining Bulgarian-bacillus treatment with proper diet, and he declares that he can produce fifteen cases to every one of the four reported by this writer in the Association *Journal*, to show that the combination of proper diet and proper medicinal treatment will produce positively effective results. He also points out that the writer in the *Journal* used a dosage of the Bacillus bulgaricus which was so small as to be ineffective, while attention to hygiene, care of the bowels, the neutralization of coexisting acidosis, and exercise are not touched upon at all. In none of the said four cases was the patient under treatment more than 30 days, while in one he was under treatment only 11 days. Moreover, the diet allowed was unscientific and unsatisfactory. In Case 3, for example, the carbohydrate intake was too low, while the enormous quantity of butter and butter fat allowed was probably responsible for the acidosis, which clearly caused the patient's death.

Doctor Horowitz reasserts his faith in and enthusiasm for the Bacillus-bulgaricus cultures in these cases, but he insists that we cannot expect to effect a cure when the patient's diet is carelessly laid out and other conditions essential for success are neglected.

FERMENT-THERAPY IN DIABETES

Basing upon an experience with 40 patients, A. Schnee, of Frankfurt a. M. (*Deut. Med. Woch.*, 1914, No. 46), confirms the reports of previous writers as to the value of fermozyle in diabetes mellitus. The ferment reduces the carbohydrates to their catabolic products, causes a reduction of sugar excretion, and leads to greater tolerance of carbohydrates. These results the author observed in about one-half of his 40 patients treated. Concurrently other symptoms gradually disappeared, including pains in the muscles and nerves, disturbances of sensation, sleeplessness, and abnormal thirst.

What "fermozyle" is we do not know, but in view of the success attending the use of cultures of Bulgarian bacillus in this country we suspect that it is some preparation of this organism.

THE ALLEN TREATMENT OF DIABETES

An interesting method of treating diabetes which is being much commented upon is that proposed by F. M. Allen (*Bost. Med. and Surg. Jour.*, Feb. 18, 1915). The essential feature of this treatment is the introduction of fasting days, during which the patient abstains entirely from food of all kind. At the beginning of treatment there is a fast of from one to two days, extended from two to ten days, the purpose of this fast being to clear the urine of sugar, acetone and diacetic acid. During the fast, the patient is given nothing but a little alcohol, in the form of whiskey or brandy. When the patient is free from glycosuria from 24 to 48 hours, then feeding is resumed, at first very slowly and cautiously.

The different kinds of food are allowed, including protein, carbohydrates and fats, but as a rule the first given when feeding is resumed are the carbohydrates, perhaps in the form of vegetables containing 5 to 6 percent of this food element. The amount of food is increased day by day, until a trace of glycosuria recurs. When this sign appears, the sugar can be removed from the urine again by another day of fasting.

Protein is usually given in the diet after a trial has been made of carbohydrate feeding, and it is allowed at first as an egg or two. Meat is added later, the dietary gradually being built up as tolerence is established. In order to give bulk to the food, a considerable quantity of green vegetables is considered advantageous.

One result of this method of treatment is loss of weight. This is not considered objectionable by Doctor Allen, who believes that in the effort to cause an increase of weight the physician is likely to bring on the characteristic symptoms of the disease. "In brief," says *The Journal of the American Medical Association*, "it is necessary to restrict all classes of food and test the tolerance of each patient in each particular class. Carbohydrate is given if possible, but is kept safely below the limit of tolerence."

GANGRENE OF EXTREMITIES RESULTING FROM HEART DISEASE

Two instances in which decompensated heart trouble in its ultimate stage eventuated in symmetrical gangrene of the extremities (upper or lower) are related by V. Kraus in *Sbornik Lekarsky* (cf. *Wien. Med. Woch.*, 1915, p. 46). The diagnosis was supported at necropsy, when endocarditis of the bicuspidal and aortic valves was demonstrated. The author assumes a nervous influence as the direct cause, brought about through a nutritional disturbance of (especially) the vasomotoric nerves, owing to the faulty circulation.

While Raynaud's disease presents a certain analogy, this can be excluded, because here the asphyxia, the local syncope, is a prominent feature and at first is evanescent.

DIETARY OF MIXED AMYLACEAL IN DIABETES MELLITUS

While in severe and in middling severe cases of diabetes mellitus a carbohydrate dietary comprising a single amylaceous article of food is effectively antiglycosuric as well as antiketonuric (i. e., preventive of acetonuria), W. Falta, of the First Medical Clinic at Vienna (*Muench. Med. Woch.*, 1914, p. 1218), asserts his obtaining equally good results from a regimen including a variety of starch-foods; in that way greatly modifying the repellent monotony of meals. Consulting the pleasure of the patient, Professor Falta permits for this cure soups of oatmeal, barley, grits, rice, potatoes, green corn, and other amylaceous foodstuffs, while the same substances in baked and paste [noodles] form acted almost as well.

The principal condition for this cure is, that no other carbohydrate be allowed in addition to the articles named, and that, moreover, animal-albumen of every kind be strictly withheld. The favorable influence of this regimen upon the acidosis becomes especially pronounced with a rigorous protraction of the cure, and after it has been gone through more or less often after preparation by a strict diet and vegetable-days.

TREATMENT FOR GALLSTONES

We find a splendid, helpful paper upon this topic by Beverly Robinson, in the June 5 number of *The New York Medical Journal* (see p. 1141). Doctor Robinson makes a strong plea for the medical treatment—not that he is opposed to surgical intervention in cases where the symptoms really demand operation, but because he believes that the severity of the operation is such that the patient should not be lightly subjected to it if there is possibility of greatly relieving the condition of the patient by medicinal measures already at our disposal. When a surgeon with exceptional skill is not at hand to perform such an operation, as Doctor Robinson points out, the danger of such intervention is by no means illusory.

In the way of preventive treatment, Doctor Robinson particularly favors resorting to the Carlsbad or Vichy waters; and for those who are merely threatened with gallstones, by reason of their habits and corpulency, he recommends the Elizabethan Spring at Hamburg, which greatly resembles in composition our Congress Spring at Saratoga. However, there is much that the physician can do for the patient in his own home. We may produce latency in gallstones during long periods, provided we prevent stagnation of the bile and its infection with microorganisms. For this purpose such remedies as boldine (so warmly recommended by Dujardin-Beaumetz and other French writers), chionanthin, and sodium succinate are suggested; also, the bile salts may be given in 1-3-grain doses, and sodium succinate, 5 grains of which may be taken thrice daily, after meals, as suggested by R. J. Smith. A combination of sodium salicylate with sodium succinate and ox gall is suggested as being of value, as advised by Riesman. Another remedy found to be a valuable adjunct to the treatment above referred to, especially when intestinal

dyspepsia or fermentation is a factor, is the Bulgarian bacillus, which may be given in the form of tablets or bouillon. Doctor Robinson says that at times he has found this preparation of considerable service. Where it is of little value, it has the advantage of being innocuous.

Diet is important. A variety of flesh food, boiled or roasted, may be enjoyed, and most vegetables are permissible. All fats, however, should be forbidden as far as possible, the quantity of sugar should be cut down, and alcoholic drinks absolutely interdicted. Frequent small meals are desirable, and laxatives are useful when indicated by the presence of even slight constipation, since by increasing intestinal movements they promote a flow of the bile. Daily exercise, moderate and in the open air, should be insisted upon, since in this way the biliary flow will be maintained in a healthy condition and the amount of accumulating cholesterin reduced. We may aid in the elimination of bile by ordering the patient to sip Carlsbad water, mixed with hot water, in the morning on rising. This helps notably in the liquefaction of bile. Sodium salicylate and hexamethylenamine are valuable when there is a suspicion of infection.

EMETINE IN PNEUMONIA AND BRONCHOPNEUMONIA

We find in *The New York Medical Journal*, April 24, 1915, (p. 848) an excellent abstract of a paper by Louis Rénon, originally published in *Bulletins et memoires de la societe medicale des hopitaux de Paris*, March 6, 1914.

Rénon reports his experience with emetine in the treatment of seven cases of croupous pneumonia and eight cases of bronchopneumonia. Of the former, in which the emetine was given in 1-3-grain (0.02 Gram) doses twice daily, six ended in recovery. Although no effect of the drug in shortening the course of the disease was noted, defervescence took place by lysis instead of crisis in four instances, the temperature beginning to recede as soon as the emetine injections were started. In four cases bronchial breathing was observed rapidly to give way to rather coarse subcrepitant rales, which persisted until the temperature had receded to normal, and even somewhat longer.

In the eight cases of bronchopneumonia, all severe and occurring in patients ranging in age from 60 to 67 years, more distinct therapeutic effects were noted. In some cases three 1-3-grain (0.02 Gram) injections were given daily. Dyspnea was manifestly relieved, the bronchial breathing diminished and later ceased, the rales were rendered coarser, and expectoration rapidly increased in amount. The temperature, where high, showed a tendency to fall. Recovery took place in seven instances. The emetine failed to bring on nausea and vomiting or to interfere with the renal function.

Though the number of cases treated was small, Rénon is disposed to consider emetine of value in all instances of serious lung inflammation, and especially recommends it in conjunction with camphorated-oil injections, digitalis, and ammonium acetate in grave cases of bronchopneumonia.

EMETINE IN PYORRHEA

Here is an interesting report of the experience of a dentist, contributed by Dr. C. D. Lucas to *The Dental Summary*. He says:

"A patient reported at the office who had been suffering for years, and upon examination I found that pus could be compressed from each tooth-socket. I proceeded to scale the local deposit from the teeth, as best I could accomplish this at a first sitting, and then injected emetine hydrochloride into all the pockets. The patient reported one week later and the characteristic pyorrhea-pus odor had disappeared and I was surprised to notice that pus could be compressed from only two sockets. The character of this pus was entirely different from what it was the week previous. Instead of having a creamy consistency and color, it had a white color and was mixed with considerable serum.

"These two pockets were treated by scaling the two teeth thoroughly, followed by an injection of emetine, not only into these two pockets but into all the pockets which could be found. The next time the patient reported there was a slight discharge from these two pockets which I found was due to faulty scaling of the teeth. I proceeded to remove this deposit and the deposit which I had overlooked upon the other teeth, and made a third injection. The next time the patient reported I gave a thorough prophylactic treatment and injected emetine into the pockets, which were then practically closed.

"The patient reported three months later for prophylactic treatment and I could find no pus in her mouth.

"Before the first injection of emetine was made I made a microscopical examination and found the coagulated amebic parasite. Another examination of the discharge was made

toward the close of the treatment and the parasites were entirely absent."

This is a fairly typical experience, so far as we are able to judge from the reports of dental practitioners.

PATHOGENIC FACTORS IN PYORRHEA

A beautiful paper upon this subject will be found in the April number of *Oral Health*, which contains an address read by Barrett and Smith, of Philadelphia, before the Toronto Dental Society.

In this paper the authors, while reasserting their belief in the etiologic importance of the entameba buccalis, also point out that there are other factors. Nearly every pyorrhea is a mixed infection, in which, in addition to the amebae, there are a variety of forms of bacteria and various other protozoan parasites. The writers are inclined to the belief that these various microorganisms may act in symbiotic relation with the entamoeba buccalis, bacterial toxins playing their part in the production of the oral sepsis which is so prominent in these cases. The entamœba, however, they are fully convinced to be the essential and most important factor in the etiology of the disease. However, they express their suspicion, that the associated bacteria are linked with the specific amebas in a symbiotic chain. Therefore, it is not only desirable that the specific curative agent, emetine hydrochloride, be administered in the proper dosage and in a proper way, but it is also desirable that local antiseptics, and perhaps proper vaccines, be likewise employed, and they have no doubt that in many cases an association of these measures will hasten and perhaps finally establish the cure.

Because of its convenience of application, its almost uniformly good effects, the absence of any painful effects upon the patient, they express their opinion that *emetine hydrochloride should stand first among the remedial agents and measures when amebic-pyorrhea cases present themselves.* There is good reason to scale the teeth in connection with this treatment, but the scaling should be gently done, to disturb the loosened teeth as little as possible. Indiscriminate instrumentation is painful, and often is really meddlesome; in fact, it results in mechanically breaking the wall of the pockets and further distributing the toxic and microbic contents in the surrounding tissues.

"Antiseptics," they say, "are surely indicated, yet indiscriminately applied, and in too high concentrations, they may destroy tissue which we should endeavor to preserve."

This position is exactly in accord with the one which we have taken, in this journal and elsewhere. *Emetine is the cure—the only real cure, for pyorrhea;* but to secure the maximum of effect, it may and should be associated, especially in the treatment of the oral lesions, with a simple, effective, nonirritant antiseptic.

EMETINE IN TUBERCULOUS HEMOPTYSIS

We have printed many abstracts of papers upon this subject, also many original reports from physicians who have tried emetine hydrochloride in the treatment of hemorrhage and found it effective. Only very rarely has the drug failed. Perhaps the explanation of its occasional failure may be found in the report of B. Nicola, given in *Gazzetta degli Ospedali*, Dec. 20, 1914. He has treated 21 cases of hemoptysis in tuberculous patients by subcutaneous injections of 0.04 to 0.06 Gram (2-3 to 1 grain) of emetine, usually repeated at intervals of twelve hours. Analysis of his cases shows that a good result can be counted on when the hemoptysis occurs in the early stages of tuberculosis, and there is not much loss of blood, or in cases with high blood-pressure and unstable vasomotor system. In all the cases of this kind the tendency to hemorrhage was definitely arrested within 10 to 48 hours.

On the other hand, when the hemorrhage was the result of passive venous congestion, or of an ulcerative process with abnormally low blood pressure, emetine not only failed to arrest the hemorrhage, but showed a tendency to induce toxic symptoms.

EMETINE AND ITS POSSIBILITIES IN DENTISTRY

Many papers upon the use of emetine in pyorrhea are appearing in the dental journals, most of them being favorable to the use of this alkaloid, although sometimes grudgingly so. A very few are skeptical or unfriendly. A somewhat striking feature of the discussion is the occasional expression of resentment that physicians are entering this field. For instance, Dr. T. F. Coyle (see *Dental Cosmos*, May, 1915, p. 539), speaking of the work of Doctors Bass and Johns, says: "Their viewpoint is that of the physician, and while their scientific attainments command the profound respect of the medical and dental world, they

do not possess that intimate acquaintance with the condition they seek to relieve that is possessed by the dentist only."

Elsewhere in this paper Doctor Coyle says: "I regard emetine as the most valuable remedy yet used in the treatment of pyorrhea, but the dentist or physician who trusts emetine, and emetine alone, to effect a cure, is doomed to disappointment." He dwells with considerable emphasis upon the necessity for the removal of all mechanical predisposing causes. "A surgeon," he declares, "would not leave a foreign body in a suppurating wound in any other part of the body and expect favorable results. Pockets must be eliminated to avoid reinfection, and intelligent use and not abuse of emetine be made, which embraces its local and intravenous administration, until complete recovery takes place."

The position taken by Doctor Coyle and the better class of dentists who agree with him, is undoubtedly a sound one. Emetine is, we are fully convinced, the most efficient remedy ever introduced for the treatment of pyorrhea. It is specific in its action, and when given a fair chance will cure every curable case; but it is necessary that all disturbing, irritating local factors should be removed, and for this work the dentist is equipped, and he only. There is room enough in this field for the earnest and intelligent cooperation of dentist and physician. This we have urged at every opportunity, and this we shall continue to do.

THE USE OF MINERAL-OIL EMULSION IN CHILDREN'S DISEASES

In view of the popularity of liquid paraffin (liquid petrolatum U. S. P.), we have been greatly interested in an article by Dr. Charles M'Neil, published in *The Edinburgh Medical Journal*, February 15, 1915 (p. 100). This article is based upon an experience with about 120 patients, observed in the out-patient department of the Royal Edinburgh Hospital for Sick Children, in whom emulsions of liquid paraffin or castor oil (very slightly purgative doses of the latter being given) were employed in the treatment of various forms of chronic dyspepsia in child hood.

Doctor M'Neil points out in this paper that liquid paraffin, in emulsion form, may be used to advantage for many other purposes than as a mere laxative, and that it has specific indications aside from its laxative action. It was used with benefit in cases of malnutrition, especially in those associated with chronic diarrhea. He thinks that it may almost be described as a sovereign remedy for the serious condition of anorexia and malnutrition that so often follows an attack of measles or whooping-cough among poor children; also, it is of great value in enuresis, with dyspeptic symptoms, in recurrent vomiting, in recurrent attacks of fainting or sudden pallor, and in urticaria or eczema associated with dyspeptic symptoms. "In the great majority of these diverse types of illness," says Doctor M'Neil, "there is an abnormal condition of the stools. This may often be a true diarrhea, but not seldom also merely a too soft consistence of the stool, with or without the presence of mucus."

Strangely enough, in the cases reported by Doctor M'Neil, constipation was present only in a small majority, to be exact, in only 21 out of 109 cases in which this symptom was observed.

Doctor M'Neil says that the action of liquid paraffin and castor oil (in the small doses employed) is similar, being entirely local and confined to the mucous membrane of the alimentary tract. The action is probably a sedative one, soothing the congested and unhealthy mucous membrane of the small and large intestine. Whatever its action, the oil, in emulsion form, is found particularly valuable when there is wasting, dependent upon a catarrhal condition of the large bowel and possibly also of the small bowel. In such cases there is rapid improvement in the condition of patients suffering from malnutrition following the administration of this emulsion. Doctor M'Neil is convinced that the preparation deserves a high place among the remedies intended for the relief of this class of cases. Usually it produced a general amelioration of the condition which was not only definite, but rapid. The same is true of lienteric diarrhea, with or without abdominal pain.

Among the symptoms characteristic of patients suffering from these forms of dyspepsia, he mentions slowness of growth, thinness, morbid appetite, disturbed sleep, muscular asthenia, with coldness of the hands and feet and exhaustion on slight exercise, timidity, shyness, and irritability. There are also frequent reports of cough, with or without enlarged tonsils and adenoids; also, intestinal worms are common. One symptom, often present, but seldom mentioned in the textbooks, is excessive thirst.

In cases of this character, the liquid paraffin is given in emulsion form by Doctor M'Neil, in average doses of about 30 minims thrice

daily. It is sometimes necessary to use laxatives, such as calomel, rhubarb, castor oil, and the like.

MINERAL-OIL EMULSION IN ENURESIS

One of the most interesting groups of cases cited by Doctor M'Neil in his paper in *The Edinburgh Medical Journal* (*loc. cit.*) was that of enuresis. Four patients were reported upon in detail, ranging in age from 21 months to 10 1-2 years. However, Doctor M'Neil has notes on 25 cases of enuresis treated or still under treatment with paraffin emulsion or castor-oil emulsion. In every one of these, it is significant that signs of dyspepsia were present, the stools being loose in 10, regular in 10, and constipated in 3. The enuresis followed measles or whooping-cough in 9 cases.

The results of the oil treatment in enuresis were as follows: Cure, 8 cases; great improvement, 3; slight improvement, 1; no improvement, 1; still under treatment and improving, 3; still under treatment, no improvement as yet, 4. In three cases, belladonna or atropine was first employed without effect. In two of these, liquid paraffin or castor-oil emulsion was then used, and with success. In the third, both were used and failed.

Doctor M'Neil is convinced that this treatment deserves a place among our remedies for enuresis. He is not aware that it has been hitherto resorted to for this purpose.

It is significant that, in all the 25 cases, there were signs of dyspepsia, and that, when the general health was helped and the digestion improved, in most instances the enuresis was relieved or cured. This would seem to indicate that in dyspepsia with enuresis, the loss of bladder control has been set up and is maintained by the underlying condition of the bowel.

American physicians should be quick to grasp the value of this suggestion, giving a careful trial to the mineral-oil-emulsion treatment.

URTICARIA AND ECZEMA IN CHILDREN

Another interesting series of cases reported by M'Neil, in *The Edinburgh Medical Journal*, just cited, was one of skin diseases, i. e., urticaria and eczema. Two such cases are reported upon in detail, the first being one of urticaria, the second one of eczema of the arms, neck and thighs. In both, the child's bowels were cleaned out with mercury or some saline, and treatment continued with the oil emulsion, as already advised. In the case of eczema, an ichthyol ointment was applied to the skin.

Doctor M'Neill gave the oil emulsion in urticaria under the hypothesis that this disease is a food anaphylaxis, produced by the absorption into the blood of undigested protein, as a result of some breach in the intestinal mucous membrane. In view of the sedative action of the petrolatum emulsion, it seems likely to be effective in these cases. Whatever the explanation, he has found the treatment successful in a fair number of the cases treated in this manner. Not the same degree of success, however, attended the method when it was employed in cases of eczema.

ABOUT CHRONIC VERONALISM

O. Glaser, of Wien, finds recorded 9 instances of veronal habituation (*Wien. Klin. Woch.*, 1914, No. 44) and to these he adds one of his own observation. A study of these cases indicates the following facts: The regular use of veronal or of other barbituric synthetics (to which the resulting euphoria is liable to lead), even when the individual doses are comparatively small, may induce toxicoses more or less severe. As is true for all hypnotics of the urea-group, it affects the cerebellum and the vestibular apparatus, while the circulatory and digestive systems are spared. The chronic abuse of veronal is noted more particularly in the constitutional psychopathics.

AN UNUSUAL ACCESSORY AORTIC SOUND

In 31 patients, Doctor Kuelbs, of the First Medical Clinic of Berlin (*Zeit. f. Klin. Med.* cf. *Muench. Med. Woch.*, 1914, p. 2340) observed, localized in the second right intercostal space, a peculiar systolic noise of an uneven, scratching, rough character. This sound was found to occur in connection with the following pathologic conditions: Augmentation of the second aortic tone, together with spreading of the aortic shadow in a radiogram (12 times); enlargement of the heart toward the left (17 times); increase of blood pressure (31 times); subjective troubles (10 times); angina pectoris (5 times). In 16, this noise was a casual accompaniment. In 17, lues and arthritis were excluded. In all probability, arteriosclerosis constitutes the principal etiologic factor. A real stenosis of

the aorta seemed improbable, to judge from the clinical evidence. Altogether, this peculiar sound must be assumed to be consequent upon a roughening of the vessel-lining or upon changes of tension of the wall.

SIMPLE TREATMENT OF SKIN DISEASES UNDER UNCONGENIAL CIRCUMSTANCES

The present great war, more than ever before, taxes the ingenuity of the military surgeons, in that they constantly must aim to simplify methods, consider economy, and adapt themselves to the most uncongenial surroundings and absence of customary means.

Much of this experience of the Red Cross men is finding its way into medical periodicals, and these practical suggestions many times needs must prove of great help to practitioners in civil life when they are called upon to treat great numbers of sick people, especially in sequestered localities or in impoverished communities. One of these writers is Anton Blumenfeld, of Lemberg, who contributes an article to the *Wiener Medizinische Wochenschrift*, 1914, No. 49. From this, we select and abstract a number of sections dealing with skin diseases prevalent among the soldiers in the eastern campaign; and we separate them under their respective headings, as follows:

HYPERIDROSIS PEDUM AND ITS CONCOMITANTS

Some of the most common conditions resulting from sweating feet are: inflammation, blisters—that is, lifted cuticle—sores, fissures; besides, not infrequently, corns. A. Blumenfeld's (*loc. cit.*) procedure is as follows:

The patient takes a daily hot foot-bath. On two consecutive days, the feet are painted three times each day with formalin, the latter ranging from 20-percent to full strength, according to the state of the skin. However, the sores first are carefully protected with petrolatum or other fat. If the patient can rest in bed, or on the lounge with shoes off, healing occurs rapidly. The only after-treatment consists in anointing the feet with petrolatum, merely in order to overcome the disagreeable, dry sensation produced by the formaldehyde. It is not necessary to wait for the peeling of the dead cuticle.

None of the numerous foot-powders in vogue approach the efficiency of these formaldehyde applications; which also suppress the hyperidrosis for a certain period. The author recommends the wearing of heavy woolen socks by these sufferers. He does not mention the daily changing and disinfecting of socks and drying-out of the shoes; and dusting in some foot-powder; but, then, that is no part of his theme, while bathing of the feet and powdering are part of German military discipline.

SCABIES, OR COMMON ITCH

Itch, as might be expected, is widely disseminated in the armies in the field. The following simple procedure has been found satisfactory by Doctor Blumenfeld (*loc. cit.*): As soon as discovered, the affected soldier is sent to the hospital, where he receives a thorough cleaning with warm water and plenty of soap. [Soft soap preferable.—ED.] When the skin is dry, a liberal amount of Wilkinson's ointment [This is the Compound Sulphur Ointment of our National Formulary; also known as "Hebra's Itch Ointment."—ED.] is rubbed over the involved areas, but without especial pressure. Three hours later this inunction is repeated. Next morning a cleansing ablution is in order, whereupon the man may be returned to the ranks. Any "scratch-eczema" now will heal under applications of zinc-paste or other bland salve.

INTERTRIGO, OR CHAFING

One of the great troubles from which men on the march suffer is chafing between the legs, technically known as eczema intertriginosum. A means to prevent this is, to cleanse the parts daily and, after drying, apply a soothing dusting-powder; after which a strand of absorbent cotton is to be put between the legs, and held in place by means of a suspensory bandage.

This same prophylactic method also suffices to relieve ordinary cases of soreness. However, when the parts are inflamed, swollen, and discharge considerable moisture, Doctor Blumenfeld (*loc. cit.*) paints them over with a 3- to 6-percent solution of silver nitrate. When dry, zinc dusting-powder is applied freely. It seems that the powders of the stearates of zinc and bismuth would be in order.

ACUTE ECZEMA

Simple forms of acute eczema generally yield to dressings with dusting-powders ("poudres"), with complete rest for the diseased parts. However, Doctor Blumenfeld (*loc. cit.*) gets quicker results from the indi-

cated wet dressings—bandages saturated with greatly diluted solution of aluminum acetate. In the case of wet eczemas, he employs the same solution of silver nitrate as mentioned under Intertrigo (just above). After the condition has passed the most acute stage, he has found that a zinc-paste, reduced with double its weight of petrolatum, gives good results.

FOLLICULITIS AND FURUNCULOSIS

The ordinary, local, treatment of these constantly recurring infections, when multiple, is extremely unsatisfactory, and resort should be had, without procrastinating, to bacterin-therapy. This is the experience of Doctor Blumenfeld, both in his private and present military practice; and he further states (*loc. cit.*) that, while autogenous bacterins not always are readily accessible, reliable polyvalent vaccines render excellent service, and are easily secured.

A systematic course with gradually increasing dosage need not at all be instituted, the author maintains, and he confines himself to merely two injections, with four or five days intervening—for example: a first injection of 300 millions and a second of 500 millions of mixed staphylococci. Not infrequently a rapid recession of the disease is observed after a single rather large-dose injection.

This treatment, according to Blumenfield, also protects the subjects for a prolonged period against a recurrence.

THE SCLEROTIC (AORTIC) PULSATION AS A SIGN OF SCLEROSIS OF THE PECTORAL AORTA

A new diagnostic early symptom of sclerosis of the pectoral aorta has been announced by K. Trunecek (*Cas. Lek. Cesk.*; cf. *Wien. Med. Woch.*, 1915, p. 43), which he asserts to be reliable. The condition consists in a palpable and visible pulsation in the supraclavicular depression; that is, when no cardiac lesion exists.

When the finger is pressed down behind the clavicle, there is felt a sudden, very intense appulse, or blow, which can be followed up into the axilla. Pressure against the first rib causes this appulse (or, impact) to disappear, as also the radial pulse. Simultaneously there is observable a spreading of the aortic depression over the base of the heart toward the right edge of the sternum. At the first moment, a noise is heard above the aorta, that continues toward the large vessels of the neck; the second aortic sound is clear and full.

This symptom-complex represents the clinical picture of hardening and dilatation of the pectoral aorta. The author has termed it the "sclerotic appulse."

AS TO THE URINE VOIDED BY INFANTS

Doctor Engel, of Berlin, publishes the following data concerning the volume and frequency of urine voided by infants (*Deut. Med. Woch.*, 1914, No. 46): a normally nourished infant ingesting about 800 Cc. a day empties its bladder on an average 25 times; but this may reach 60 or 70 when taking in from 1200 to 1600 Cc. Urinating nearly or entirely ceases during sleep, while it increases after physical and mental activity (in daytime). A single emptying ordinarily amounts to from 10 to 20 Cc.; the greatest volume ranging between 50 and 60 Cc. (mostly nights), but may attain to 70 or even 90 Cc.

TOXIC PROPERTIES OF EMBARIN

Of late, the new preparation embarin is receiving some attention in European medical periodicals and also has been annotated once or twice in these columns. That it is not free from danger, though, appears from the warnings of recent contributors, among them, Merzbach, Germany. More lately, an Italian, Pasine, tells (*Muench. Med. Woch.*, 1914, p. 1808) how, in a woman of 70, embarin gave rise to nausea, headache, cutaneous eruptions, and elevated temperature. He enjoins the greatest caution in its use.

PHYSIOLOGIC ACTION OF SCILLITIN AND SCILLIDIURETIN

The chemistry of scillitin and scillidiuretin is not yet definitely settled; however, physiologically these two principles of squill differ widely. According to W. Kopaczewski, of the Pasteur Institute of Paris (*Bioch. Zeit.* 1914, p. 501; cf. *Ther. Monatsh.*, 1914, No. 12), scillitin kills rats in doses of 1-10 mg., and dogs, in doses of 12 mg. [weight of dogs not given], the heart, in the dogs, being arrested in systole and the lungs inflated. Scillidiuretin, on the other hand, is almost free from toxic action, while effecting marked diuresis; thus, a few centigrams of scillidiuretin will double the output of urine in the case of rabbits.

Miscellaneous Articles

Current Comments by a Country Doctor

NOTES on Dosage.—The writer has been asked why he never lays stress on the dosage of any remedy. His answer is, that rules of dosage are so flexible under such a multiplicity of conditions that virtually the only rule is, "to effect." The generally accepted maximum dose of a drug should always be borne in mind, together with the facts that it is influenced by the weight of the patient and conditions, favorable or unfavorable toward absorption. We also take into consideration the corrective influence of other agents simultaneously administered, as well as possible idiosyncrasy against or toleration for certain drugs. The latter especially in the case of drug-habitués or those who by previous use have become temporarily tolerant. Last, but by no means least, the different rate of metabolism as governed by age must enter into calculation in order to secure accurate and prompt effect.

Another thing that will aid in safe guidance is, an always-present thought of a possible interchange of chemical radicles, either among incompatible drugs or by their contact with the body-secretions. It is not difficult to train the mind so that one's knowledge of chemistry becomes almost an automatic safeguard, at least against gross error. For example, it is not difficult for one to remember that when he deals with the CN radicle it is well to think twice, whether he uses so simple (and often useful) an agent as peach-leaf-tea or a ferrocyanide; both being comparatively harmless bearers of the extremely potent cyanogen, yet, always should suggest possible dangerous decomposition, especially with an Hg salt.

Still, even with all things taken into consideration, it is hard to say that there can obtain either a maximum restriction of justifiable dosage under certain circumstances or a minimum limit of doses for securing therapeutic results. As to exceeding the maximum, in dire emergencies, this has been done deliberately many times by the physician who seeks immediate effect at times of a vital crisis or in cases of accident. In these instances, the one prescribing prefers to fight the effects from a possible overdose of the drug to risking the more probable loss of life through his refusing to adopt heroic measures. The writer has at times resorted to such an active agent even as atropine under such circumstances, and results proved the justifiability of emergency procedure.

The writer knows of a peculiar combination of circumstances under which tincture of digitalis was taken as a "drink". An assistant entered the darkened laboratory to take a dose of cough-medicine from a bottle from which he had been dosing himself all day. Meantime the porter had cleaned up. There was on the spot a bottle of the same size, but it was the carbolic-acid-bottle, and the man took from it a big dose. Fortunately, he did not lose his head, even if careless. Straightway he switched on the light and grabbed the alcohol-bottle, but it was empty. Then, without delay, he grabbed the first tincture available and swallowed a liberal portion of it and also rinsed his mouth with it. It was the tincture of digitalis. This he quickly followed up with an apomorphine injection. The writer's first medical commandment was: Handle no medicine in the dark, read the label twice; also, throw out all doubtful and unlabeled "junk." This little story proves either that there is no maximum dose of digitalis or that all drugs are dangerous and entitled to handling with judgment and respect.

But it is not the fact that maximum doses may be exceeded that is to be emphasized, because, believing that, the tendency is toward overdosage. The smallest amount that will promptly effect the result is the desideratum; and, if a drug is to be given to physiological effect, the rate of absorption as well as of elimination must be considered, in order to avoid a possible cumulative effect; and the administration must be made in divided doses, to obtain the best results. Modification of this procedure will, of course, be

made to a certain extent when giving those drugs which exercise a specific action over certain symptom-groupings with an empirically proven certainty; although, in the present state of incompleteness of our understanding of physiological chemistry in its more delicate detail, in an uncertain way.

Prompt and thorough absorption often is aided by giving the remedies in hot water; in fact, efficiency sometimes thus is doubled. Frequently the only way a patient can be made to drink a sufficient amount of water is by instructing him to take it, either hot or cold, with his medicine; and in many instances water is imperative, especially where the urine shows high specific gravity and hyperacidity. It is strange, but true, that a patient is apt utterly to neglect the specific directions to take a certain amount of water at regular intervals, while, if told the medicine will not "work right" unless followed by a full glass of water, he will do so with absolute certainty.

Briefly, there must be some basis for fixing dosage, and Shaller's rule (a modification of the "Guy's Hospital Rule" and Young's formula) is a most excellent one to go by; still, the modern, up-to-date internist using the accurate therapeutic means at his command will be bound inflexibly by no rule. Thorough knowledge of the action of drugs and of physiological chemistry so far as known, and a skilful adaptation of this knowledge to the individual case, together with constant investigation and search for new therapeutic facts is the secret of successful practice.

The day of subordination of the knowledge of drugs to other branches is vanishing, and, with it, the therapeutic nihilist. The writer trusts that, with the evolution of all medical schools to $(a^2+2ab+b^2)^n$, internal medicine will be given a more thorough exposition than heretofore in the curriculum, and we even may hope to see the specialist in internal medicine hang a few more letters onto his name—if that will do him any good.

Pilocarpine in Malarial Hematuria.—Jaborandi was a useful drug, but, on account or uncertainties of strength in the type-species pilocarpus jaborandi, as well as in the several other varieties entering commerce (with some sanctioned by the U. S. P., as pilocarpus), had the usual disadvantages of all crude plant-drugs, with the additional one of the frequent presence of pilocarpadine in the unofficial species supplied. In pilocarpine we have the most certain and prompt-acting of all diaphoretics. The combination of pilocarpine with the nitrate radicle in pilocarpine nitrate is the most available form for usual administration, and in this salt we have a chemical and a therapeutic correction of the rather overestimated depressant effect of the drug.

The use of quinine in malarial hematuria is a most doubtful procedure, and the proper selection of an antiperiodic and the time to use it is a problem of more or less difficulty at times; but, in this class of cases, pilocarpine is a most valuable aid. Where the hemorrhagic protest of the kidneys is made against their inability to eliminate toxins, the writer thinks of pilocarpine nitrate first, or at least as soon as he has relieved the algid state by means, probably, of glonoin. Please note that we have dropped from a trinitrate (of glyceryl) to a nitrate, but, still, continue the use of the NO_3 radicle with our pilocarpine molecule. Where we desire a stimulating effect, to enhance the action of an alkaloid, it is best used as a nitrate. Thus, the hypodermic-case of many practitioners contains strychnine nitrate instead of the sulphate for the emergency-remedy.

The question of the use, at the same time, of cactoid, aconitine, veratrine or other remedies is governed by the heart action and temperature in each individual instance. As a rule, however, one can give the pilocarpine nitrate alone to effect, bearing in mind that, if for any reason it is necessary to check excess action of the remedy, we have a positive corrective and physiological antagonist in atropine. Possible tendency in some instances toward edema of the lungs is the main thing requiring caution, as pilocarpine has also a stimulant action upon the bronchial glands. The tendency toward great increase of salivary secretion is a factor that seldom will be of importance.

Hematuria is only one of the many conditions in which a quick diaphoretic is indicated, and pilocarpine will start sweating in from six to fifteen minutes when a good initial dose is used. In eclampsia, two or three heavy doses of veratrine and of lobelia, followed by pilocarpine, is a well-indicated treatment, sure to bring quick results. The sweat eliminated under pilocarpine will be acid first, then alkaline, then neutral, usually, thus demonstrating its value in relief of hyperacidity. Copious ingestion of hot water should generally accompany the administration of a "pilocarpine-bath." Some physicians use whisky or brandy in the hot water, and this is, possibly, one of the few conditions in which alcohol is of value medicinally. Next to

eserine, pilocarpine ranks as the most active myotic, hence, is useful in glaucoma, while it is not without value as a diuretic in the small dose, but primarily it is the remedy most certain of all in its action upon the sudoriparous glands.

On Being a Horse-Doctor.—Several problems new to the writer presented themselves when he came to a country location, problems for which he lacked a precedent. But, not being a creature of established precedent to the extent of refusing to act where none existed or was in evidence, he solved them as to him seemed best. One of these questions was, whether to be or not to be a "horse-doctor" or, rather, horse-surgeon.

Now, despite the fact that it is well conceded and a matter of common knowledge that the veterinarian—meaning the modern veterinary graduate—is a man of scientific attainment justly ranking among those of the learned professions, still, the average M. D. has a horror of being considered a "horse-doctor." Thus, when the first call came to act as surgeon to a mule which had had an unfortunate encounter with a barbed-wire fence, it was answered by refusal, upon several grounds. It was explained that knowledge of equine anatomy was lacking, of comparative anatomy not retained, and, lastly and emphatically, that the relator was no horse-doctor. Pleading still continued, when the little partner finally decided the matter. "Doctor, you know there is no veterinary surgeon within miles, and those poor creatures have to have that mule to make a living; besides, you are not a dentist, either, but you would not make anyone go nine miles at night to have a tooth pulled." That settled the matter.

Although not being a horse-doctor, frontier raising enabled supervision of throwing and "hog tying" that hybrid "critter." The artery was found and tied—don't know to this day what vessel in a mule it was. When the subject of remuneration was approached, the money was declined. It was explained that it was a neighborly act, case of ox or ass falling onto a barbed wire. Doubtless, had barbed wire been used in Mosaic times, it would have received mention in the Pentateuch. The impression was conveyed by implication that sewing up a mule was not the legitimate work of an erudite and learned surgeon of ripe experience in repairing human traumata.

This precedent established, though, it was not long before other injured beasts—cows, mules, horses—were, from time to time, brought as patients; and now, if not engaged with the human portion of our clientele, the surgery is being attended to and also charge made for it. Strange to say, the money is immediately forthcoming. It is a peculiar fact that many people will pay cash to have a mule's artery tied, but stand off a doctor until cotton-season for treating a sick baby. The horse-surgery money is something like the minister's wedding-fees—extra money, velvet, so to speak.

At times, the matter of seeing what credits would be allowed on a D. V. S. course has been seriously considered. One could keep the horse if treatment were not paid for, while many a human patient is so undesirable that one would not have him even if chattel-slavery were still permitted.

A. L. Noursl.

Sawyersville, Ala.

SOME THERAPEUTIC "KINKS"

I enjoy every page of every issue of Clinical Medicine, from editorials to advertisements. The scientific papers, the gleanings, the queries, the comments; but most of all I like the messages from the firing-line, the direct, roughly written tales of success and failure from the man who drives the long road to reach the bedridden mother or the fevered child. Those fellows in the trenches! Let's hear from them in greater and greater numbers. We all become accustomed to certain treatments, remedies, and procedures that we have found will benefit a majority of given cases. We owe it to the other boys to trade them something we know for something they know. Everybody speak up. Here's my mite for this time.

Erysipelas.—If you want to stop it right where you find it, simply swab on a mixture of two-thirds castor-oil and one-third flexible collodion. The disease will not spread the least bit farther and the skin will die and peel off, resolution setting in from the moment you make your first application. Iron internally.

Eczema.—The best local application for this annoying trouble is the following; it stops the itching at once and favors the restoration of normal skin:

Salicylic acid	grs. 15
Citrine ointment	dr. 1
Sulphur (precipitated)	grs. 30
Ointment of zinc oxide, enough to make	oz. 1

In this connection, remember that many inflammatory eruptions are aggravated by a

blood stream loaded with toxins and ferments from the digestive tract. Therefore, prescribe saline laxatives and intestinal antiseptics. For children with feverish eruptions, dissolve a heaping teaspoonful of Abbott's Saline Laxative in two-thirds of a glass of water and direct a teaspoonful to be taken every hour or half hour. It is a restful refrigerant that is better than opiates and sedatives.

Headaches.—They annoy so many of our patients, and, yet, most of us know how futile and useless is the average headache-tablet; besides, these remedies are habit-forming and are sold over every counter. Here is a remedy in liquid form that will relieve in almost every case; the ingredients are old friends of yours, but, combined in this way, they constitute the best all-around relief for neuralgic pain that I ever have tried:

Antipyrin	dr. 1
Caffeine citrate	grs. 30
Sodium bromide	drs. 2
Hot water	ozs. 2

Dose, one teaspoonful every hour, for three doses, if needed.

"Itching Piles," or Eczema of the Anus.—Swab with pure phenol. You are sure to win the gratitude of your patient.

After silver-solutions have failed in mucous patches of the mouth, apply pure tincture of myrrh. You'll like the results.

H. S. Brevoort.

Hutchinson, Kan.

ANENT "DAGOES" ET AL

Anent S. J. Brownson, who in the April number of Clinical Medicine, under the caption of "The War Disease and Its Prevention," dwells upon divers wide distinctions.

Socialism (of which I am not an exponent) aims at a state in which, as far as is possible, the Golden Rule will become a tangible reality. Socialism admits of no national distinction, nor racial. It considers the labor of the ditch-digger as of equal worth to that of the machinist, chemist, physician, or professor.

Yet, Doctor Brownson, who is a Socialist candidate for Congress, bewails the fact that "dagoes and negroes are chosen at the packeries, instead of whites."

In the West, my name would mark me as a "greaser," notwithstanding that I am an American whose parents came from the country from which sailed the dago who reached San Salvador in 1492.

I am certain that such names as Gorgas, Da Costa and Montoserri are not typically American. As the Latins were here first, I fail to see a reason for an apology for the privilege of being an inhabitant of La America del Norte.

I believe it was Amiel who once said, "Sympathy is the first condition of criticism." I trust that Doctor Brownson will be elected. A Socialist usually is a thinker. We need a few more thinkers in Washington.

Francis B. Mendoza.

Boston, Mass.

GERIATRIC SOCIETY ORGANIZED

We are pleased to announce that on June 2 the New York Geriatric Society was organized, and elected the following officers: President, Robert Abrahams, M. D.; vice-president, Edward P. Swift, M. D.; secretary, I. L. Nascher, M. D. (103 88th Street).

This is the first society ever organized for the study of senile conditions.

Those of our readers who are interested in this subject should communicate with Dr. I. L. Nascher and secure all copies of reprints and reports that deal with this society.

THE PASSING OF ALCOHOL

In reading the May number of Clinical Medicine, I was particularly pleased with the editorial entitled "The Passing of Alcohol," and, among the many good and interesting things presented, this one strikes me as being the most useful and goodly; and, yet, I myself like a glass of beer as well as anyone and have a draught of it occasionally. Nevertheless, any doctor who has any practice at all knows that drink causes all manner of diseases, and is the cause of all kinds of crime and of untold misery, suffering, and poverty.

Universal prohibition is coming. When people, like yourself, who represent and to a greater or less degree create an opinion among the medical profession, come out in such a strong and positive way as you have in this editorial, you are helping to free our country, and the world, from this greatest of all evils—the evil of drink.

I wish to compliment you upon your position and your courage, and hope you will continue in this work. You have with you the good will of many men like myself, who are

not prohibitionists in the strict sense of the word.

Zeno G. Logan.

Ophir, Itah.

COPPER ARSENITE IN BOWEL TROUBLES

I see but little reference to the use of copper arsenite in the treatment of bowel troubles, so, take the liberty of writing a few words on its uses. In the first place, this remedy is of more value during early childhood than later in life; not, however, because benefit will fail to follow its use in persons of mature years, but, for the reason that older people can tolerate other and even more potent remedial agents not well borne by young children. Among the latter, I may mention opium in its various forms, which indiscreetly prescribed for children, has claimed numerous victims. In spite of this drawback, opium still maintains its hold, because it relieves pain, lessens the frequency of bowel movements and gives temporary comfort to the patient. However, it is a dangerous remedy for children and should always be given with caution.

At the period of dentition, the enteric affections of children are likely to be of the severest character, and these are readily brought on by changes of temperature, improper food, insanitary surroundings, and a disregard of the simpler rules of hygiene. Whatever their cause, these diarrheal troubles confront us constantly, and we are called upon to treat these patients as best we can.

While a gastrointestinal infection may subside within two or three days under proper dietetic restrictions, there is a distinct tendency for the enteric condition to become more aggravated, with development of a typical ileocolitis of indefinite duration. We frequently come in contact with cases of this kind during the hot weather of late summer. The laity generally look upon these attacks of summer-complaint as of protracted duration and likely to be relieved only by the advent of cooler weather. Unfortunately, many of these little sufferers perish before that period arrives.

It is in these chronic conditions that copper arsenite is a life-saver. It is not the remedy for the acute stage of the disease, nor is it indicated when the essential trouble is in the stomach and is associated with nausea and vomiting. Under such conditions, other remedies, more specific and directed against the gastric affection, are indicated.

However, when the disease progresses beyond the stomach, and the bowels become involved, as evidenced by a semichronic, dysenteric discharge, showing evidences of inflammatory involvement of the large intestine, together with increasing prostration and debility, then copper arsenite, in small frequently repeated doses, will turn the tide and many times bring about a favorable issue. I also find this remedy of great value in true cholera infantum, when there is great prostration and nausea, and watery stools become numerous.

Copper arsenite is antiseptic, disinfectant, stimulant, and mildly astringent—a quartette of virtues not possessed by any other drug employed in these affections of the intestinal canal. It markedly inhibits bacterial growth and undoubtedly acts as a stimulant of the mucosa and intestinal glands, thereby aiding in the restoration of normal function, while lessening the osmotic drain of fluid.

Finally, it fortifies the nervous forces, through increasing the resisting power of the tissues of the alimentary canal.

In copper arsenite, we certainly have one of the best remedies for the treatment of inflammatory diarrhea of this nature. Unfortunately, it too often is forgotten—too little used.

In conclusion, I take pleasure in telling you that Clinical Medicine always contains many suggestions of helpfulness to its large number of readers. I appreciate the journal for its predominantly short articles, concise and to the point, which come in handy in everyday practice. Deliver me from those long-winded, socalled scientific papers that make one forget the text before having winnowed the grain from the chaff, and leave one in the dark concerning the most essential thing for the clinician—the treatment.

A. J. Cranee.

Pasadena, Cal.

[Copper arsenite is indeed one of the best things we have, especially for infantile diarrheas of various kinds. Used in connection with, or alternation with the sulphocarbolates, it will cure some of these severe forms of diarrhea which refuse to yield to any other remedy. Copper, as we now know, is a powerful bactericidal remedy, having a peculiarly deadly effect upon many low forms of life, and yet it can be given in such minute doses as to be absolutely nontoxic so far as the child itself is concerned. When the baby cannot tolerate ordinary medicines, it can take copper arsenite without trouble. A

supply should be in every physician's pocket-case, ready for immediate use.

Of course, we like Doctor Cranee's nice boost for CLINICAL MEDICINE. Like him, we enjoy most of all the short, snappy, point-ful articles, coming right from the firing line of practice. We want more of these, and every reader of these lines is earnestly invited to send in his batch for our next and succeeding issues.—ED.]

CHAPARRO AMARGOSO

I desire to call your attention to a most valuable drug, the chaparro amargoso, with the earnest hope that you will look it up and give the readers of the journal the results of your investigation. The remedy is listed in some pharmaceutical catalogs, and I find reference made to "Hooker" as an authority relative to its therapeutic uses. I have found the fluid extract very valuable in all atonic conditions of the alimentary canal; but its action seems to extend farther, for it is a nervine, as well as digestant, of no mean quality in those brokendown subjects for whom I have prescribed it. Those who have long complained of their stomachs, indigestion followed by diarrhea, bloating, and the like, those who are the "chronic of the chronics," with a soured disposition and who often vent their spleen against the medical profession in general, and the last-tried doctor in particular, are the ones who are greatly benefited by this drug, when given in 30-drop doses, three times daily. In some respects, this drug has an action like condurango (or its glucoside condurangin) upon the intestinal canal.

A. H. COLLINS.

Tulsa, Okla.

DIARRHEAS IN INFANTS

If the mother of a child suffering from infantile diarrhea will call the doctor before the infant is moribund and the doctor will follow the method described below, he will save most of these little patients.

First purge the child briskly with calomel, giving 1-10 grain every twenty minutes for ten doses. Follow this by castor-oil or a saline laxative. The latter is better and may be given from the nursing-bottle, flavoring with orange or lemon, to mask the taste.

While the calomel is getting in its work, wash out the large bowel with normal saline solution. This will remove fermenting mucus, together with the toxins that are poisoning the child. This bowel flushing should be done at least three times a day at first, reducing the number as the baby improves; but, in any case, it should be kept up as long as mucus is found in the movements.

All feeding should be stopped for from twelve to twenty-four hours, plain-, barley- or rice-water excepted. When feeding is resumed, the milk should be very much diluted, if the baby is bottle-fed, gradually working up to full strength.

Give the dosimetric trinity, as indicated, after the bowels have been thoroughly cleaned out; also the three sulphocarbolates aplenty. Don't be afraid of the latter. In most instances, the bowel flushings control the pain and the diarrhea.

Of course, it is necessary for the mother to cooperate with the doctor; for, upon her you must depend for the giving of medicine, performing of bowel flushings, feeding, bathing, and all the rest. She must be a stayer.

W. H. SNYDER.

Royal Oaks, Mich.

THE HARRISON ANTINARCOTIC ACT

The passage of the Harrison antinarcotic bill is a positive slur and insult to 98 out of every 100 physicians. It is a graft. Every licensed physician in the state (any state) has a state certificate from the board of health, certifying that the holder has been graduated from some medical college, has passed the required state examination, and is qualified to practice medicine. I believe the Harrison Law is unjust and unconstitutional, and, therefore, should be repealed. If our lawmakers want to do something to protect the public, why don't they legislate against Osteopaths, Chiropractics, Christian Scientists, faithhealers, and the like.

How much harm has been done and how many lives have been lost by drugless healers? More than our lawmakers who passed the Harrison Law know. Also, why not legislate against druggists prescribing over their counters without a physician's license.

What becomes of the $20,000 that Illinois physicians send to the internal-revenue collector? Who gets it? How is it applied? Every individual in and out of the profession has a right to know, for this is public business. If a taxpayer desires to know how his tax is divided and applied, he may find out.

The sooner this law is repealed, the better. Physicians really are handicapped in doing their full duty to patients, besides, it brands all of us as rascals. If every physician in

every county will interest himself in this matter and get busy, we can bring about the repeal or at least a modification of this unjust, slanderous law.

Each county society should formulate and each physician in the county sign objections to the Harrison Act and present these objections as their protest against the act, and instruct our lawmakers to reconsider—yes, to repeal the Harrison Law; because, as the objections would include, it is unjust, offensive, slanderous, to us as graduated, licensed, experienced physicians, and is unconstitutional. It reflects upon our character and qualifications. What do other physicians think about it?

"KIRK."

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[Doctor, you are wrong. This law was greatly needed and will do great good. Read our comment on the next article.—ED.]

THE HARRISON ANTINARCOTIC LAW NEEDS AMENDING

The Harrison Antinarcotic Law seems to continue bringing forth comment, speculations, and advice as to its workings and nonworkings, requirements and nonrequirements.

To begin with, the law itself manifestly is wrong as it reads and as it is expected to be lived up to. However, it is there, and, as in a case of fully developed measles, we must treat it symptomatically as the various conditions begin to show themselves. On the other hand—to continue the simile—it is too bad that the disease wasn't aborted before it reached the stage of ulceration. Yet, the situation is so obviously simple that no one should need to fear that in time and under proper treatment a crisis will not be reached, after which a healthy recovery and normal convalescence also are assured.

The entire affair—the original moving incentive leading up to the present development, the method by which the law was drafted, and its final adoption in its present form—admits of several analyses.

One outstanding fact of a close scrutiny of this law is, its unmistakable unconstitutionality as a whole. This, however, does not signify that there are not certain features that might come logically within constitutional bounds.

Such a law, to become wholly constitutional in its entirety, should, in a free country, reasonably, first be submitted to a referendum; and this was not done. One unfortunate feature of the law is that it unqualifiedly deprives the private individual of his rights as a citizen. In his day, the pioneer kept in his cabin a medicine-chest equipped with emergency-remedies, while nowadays the modern factory also provides a complete emergency-outfit. The pioneer had his bottle of laudanum and spirit of camphor; the factory medicine-cabinet up till now contained a solution of cocaine, to be used when removing particles from the eye. But now the Harrison law makes a criminal of the private citizen and of the shop-owner who attempts to provide against certain contingencies.

Such an interpretation (and such interpretation, so the writer believes, has been put upon this law) seems to be an encroachment upon the rights of the citizen. Neither the pharmacist nor the physician can afford to be so egoistical nor can the lawmakers afford to be so narrowminded as to deny that many laymen are as capable of understanding and of acquiring a working-knowledge of the legitimate use of drugs as are the physicians and pharmacists themselves. And their right to exercise this talent should not be curtailed.

There can be little doubt but that this law should be amended as soon as possible; that it should be so modified as to serve its intended, real purpose, namely, the prevention of illegitimate traffic in habit-forming drugs, while at the same time allowing due freedom and liberty in the exercise of citizenship to competent persons.

F. N. RICHARDSON.

Cleveland, O.

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[The Federal Antinarcotic Law has its faults, but most of these inhere in the *regulations* rather than in the law itself, as we have already pointed out. Unfortunately, no measure of this kind can be put over to destroy an ancient evil that does not do injury at the same time to thousands of honorable men. The effort of the medical profession should be addressed to the reduction of this injury to the lowest possible degree compatible with the efficiency of the law. We regret that our medical societies generally have been indifferent to the manner in which this law is administered. Every state society should have a narcotic committee to protect the interest of the medical profession while insuring the efficiency of laws of this character, whether state or national. The physicians of this country are not asking for license to do wrong. They are anxious for good narcotic acts, which will suppress this traffic; but they want these acts to be clean, square,

and fair, and untinctured by any suggestion of class legislation.—ED.]

SOME NEW HARRISON-LAW RULINGS

Several new rulings under the Harrison Antinarcotic Law, which are of great interest to physicians, have recently been issued. Inasmuch as the Act is being rigidly enforced by the Government, and numerous physicians have been arrested in various parts of the country on account of failure to live up to the rules made by the Commissioner of Internal Revenue, it behooves every physician who wishes to keep out of trouble, to be fully in touch with these regulations.

One new regulation compels physicians to limit the amount of narcotics prescribed to what is immediately required, or, in lieu of this, to specify on the prescription the reasons for furnishing the patient with an unusual quantity of the drug. This regulation (T. D. 2200) reads as follows:

The act of December 17, 1914, provides that a physician, dentist, or veterinary surgeon registered under the provisions of the law, may dispense or prescribe any of the narcotic drugs coming within its scope to patients upon whom he shall "personally attend" and "in the course of his professional practice only."

This office construes the words "dispensed," "distributed," or "prescribed," used in the act, as synonymous, and that a physician, dentist or veterinary surgeon "dispenses" within the meaning of the law when he writes a prescription calling for any of the narcotic drugs to be filled by a registered dealer.

While the law does not limit or state the quantity of any of the narcotic drugs that may be so dispensed or prescribed at one time, it does provide that it shall be unlawful to obtain by means of order forms any of the aforesaid drugs for any purpose other than the use, sale, or distribution thereof in the "conduct of a lawful business in said drugs or in the legitimate practice of his profession." Further, that all preparations and remedies containing narcotic drugs coming within the scope of this act are "sold, distributed, given away, dispensed, or possessed as medicines and not for the purpose of evading the intentions and provisions of this act," and it is further provided that it shall be unlawful for any person not registered to have in his possession or under his control any of the drugs, preparations, or remedies "which have not been prescribed in good faith by a physician, dentist, or veterinary surgeon registered under the act."

Therefore, where a physician, dentist, or veterinarian prescribes any of the aforesaid drugs in a quantity more than is apparently necessary to meet the immediate needs of a patient in the ordinary case, or where it is for the treatment of an addict or habitué to effect a cure, or for a patient suffering from an incurable or chronic disease, such physician, dentist, or veterinary surgeon should indicate on the prescription the purpose for which the unusual quantity of the drug so prescribed is to be used. In cases of treatment of addicts these prescriptions should show the good faith of the physician in the legitimate practice of his profession by a decreasing dosage or reduction of the quantity prescribed from time to time, while, on the other hand, in cases of chronic or incurable diseases such prescriptions might show an ascending dosage or increased quantity. Registered dealers filling such prescriptions should assure themselves that the drugs are prescribed in good faith for the purpose indicated thereon, and, if there is reason to suspect that the prescriptions are written for the purpose of evading the intentions of the law, such dealers should refuse to fill same.

Other regulations (T. D. 2114 and T. D. 2115) further limit the professional use of narcotics, which is now restricted to physicians, veterinarians, and dentists. The first of these regulations reads as follows:

The fact that registration is limited to certain named persons indicates that there must be a power of discrimination vested in collectors of internal revenue as to who shall be registered and from whom special tax may be received. Therefore, persons not legitimately engaged in the exercise of their trade or profession cannot legally register under the terms of this Act. For example: A party must be a legitimate producer, importer manufacturer, seller, or distributor of the aforesaid drugs, and likewise a physician, dentist, or veterinary surgeon can register under this act and dispense these drugs "in the course of his professional practice only." It also follows from the express language of the Act that such physician, dentist or veterinary surgeon can prescribe such drugs when he "has been employed" to prescribe for the particular patient receiving such drugs," and upon whom he "shall personally attend in the course of his professional practice only," and such prescriptions must be made "in the legitimate practice of his profession," and then only when "employed to prescribe for the particular person receiving such drugs."

The above quotations from the law indicate the correct limitation upon the professional prescription or distribution of said drugs by persons whether registered or not.

It is apparent from the foregoing that the duties of collectors and other internal revenue officers do not end, under the provisions of this Act, with simple registrations. If parties secure registration through misrepresentation or fraud, such registration is null and void and does not protect them from prosecution for the illegal use of these drugs, and it is the duty of collectors and other internal revenue officers when such cases are discovered to investigate the same, and where the law has been violated in line with the foregoing, to seize and proceed to forfeit the prohibited drugs illegally in possession of such parties, and recommend such persons to the District Attorney for indictment and prosecution.

The foregoing has special application to those persons who, registering as physicians, prescribe or distribute narcotic drugs or preparations on receipt of mail orders received from socalled patients, or who under the laws of the State or under municipal regulations, are not permitted to practice medicine.

In order to make the preceding regulation effective, the Commissioner of Internal Revenue has issued the following (T. D. 2115):

In issuing registry numbers and special tax

stamps under the provisions of the Act of Congress, approved December 17, 1914, known as the Harrison Narcotic Law, collectors of internal revenue will require persons making applications to state, under oath, in the blank space on Form 678, or if not sufficient space on the line for that purpose, it should be in the form of an affidavit attached to the application on this form, that they will engage in administering, dispensing, or prescribing narcotic drugs only in the legitimate practice of medicine, dentistry, or veterinary surgery; or will engage in the business of producing, importing, manufacturing, compounding, dealing in, dispensing, selling, or distributing, as the case may be, only those narcotic drugs for which they are duly qualified by law, e. g., "The undersigned is now engaged or on and after————will engage in the legitimate practice of medicine (dentistry, or veterinary surgery), and is, or are, duly authorized by law to administer, dispense, or prescribe narcotic drugs," or "The undersigned is now engaged or on and after————will engage in the lawful business of producing (importing, manufacturing, compounding, dealing in, dispensing, selling, or distributing) narcotic drugs."

Another regulation, issued on June 12, 1915, makes it necessary for physicians, dentists and veterinarians to secure separate licenses and registrations for every place of business which they may have. Heretofore, such practitioners were not required to register and pay a special tax for each locality. This regulation (T. D. 2118) reads as follows:

Art. 1. The second paragraph of this article is hereby amended, effective on and after this date, to read as follows:

If the applicant has more than one place of business, or if, in any case, the applicant is engaged in more than one profession, or business where any of the drugs above described are made, stored, or dispensed, a separate application for registry must be made, and a special tax must be paid, in each such case.

We shall take great pleasure in giving any of our readers any assistance we can in explaining the Federal Antinarcotic Law and its regulations. New regulations are being issued from time to time and it is very important that every practitioner be fully conversant with their meaning.

EMETINE IN PELLAGRA

Some time ago I wrote you that I believed pellagra could be cured with emetine hydrochloride. Since my little article appeared in Clinical Medicine, I have had many inquiries from members of the "family" regarding the method used. I write this letter to explain, and to urge others to give emetine a trial. I believe if we follow up this line, we shall arrive at a much more satisfactory method of handling this troublesome malady than we have had heretofore. Thus far, I have succeeded in curing positively every case that I have treated, and I rarely use anything except emetine hydrochloride.

I have given the emetine internally, in 1-64-grain doses, every two to four hours, the dosage and frequency of administration varying according to the diarrhea. I also frequently give quinine hydrobromide, in 2 1-2 to 5-grain doses three times daily, the dose depending upon the prominence of the nervous symptoms. Occasionally I use a small quantity of urotropin, together with digitalis as a diuretic.

While I am not prepared to pass upon the etiology of this disease, nevertheless, I am impressed with the hypothesis presented by Dr. E. M. Perdue, on page 217 of the March issue of Clinical Medicine. I believe his theory is the correct one. I also believe that if emetine hydrochloride and quinine hydrobromide were presented in ampule form and administered hypodermically, that the disease would be eradicated more quickly than when the remedy is given by the mouth.

I hope that physicians, now employing other remedies which are not proving satisfactory, will try out this method of treatment, and report through The Clinic.

A. D. Hilton.

Grannis, Ark.

[Emetine hydrochloride is already available in ampule form. We believe that Doctor Hilton is right in advising that it be given subcutaneously, since, thus administered, results are likely to be more rapid and more effective than when the remedy is administered by mouth. Unfortunately, any considerable quantity of emetine taken orally, is prone to produce irritation of the intestinal canal, and since diarrhea is practically always a symptom of this disease, we naturally wish to avoid further disturbance of the bowel. It is possible that smaller doses of emetine hydrochloride than those usually advised, would prove effective. For instance, instead of giving 1-2 grain a day subcutaneously, it might be desirable to inject 1-8 to 1-4 grain at a dose, well diluted, so as to reduce the likelihood of local irritation. The dosage could be gradually increased.

Quinine hydrobromide can be given subcutaneously if thought desirable, but we are not inclined to advise it. It may be taken in small doses by the mouth, or, if the physician really prefers to give it subcutaneously, probably he will be most pleased with the quinine and urea hydrochloride, which, as we all know, is a local anesthetic as well as a valuable agent for systemic effect.

We hope that other physicians will follow out Doctor Hilton's ideas and let us know what results they obtain.—Ed.]

AN EXPERIENCE WITH EMETINE IN PYORRHEA

I can report favorably upon the only case of pyorrhea alveolaris in which I have used emetine. The patient was a young man suffering from a fairly advanced case of pyorrhea. He had been under the care of a dentist who knew about the emetine treatment, but, not understanding how to use it, had never given this drug a trial.

When the young man came to me, I at once gave him a hypodermic injection of 1-2 grain of emetine hydrochloride, repeating this dose on four successive days, introducing the solution into the arms and the back. Meanwhile I asked the dentist to continue the local cleaning-up process. The soreness disappeared, also the spongy condition of the gums, and at the present time the patient says, "My whole mouth feels a whole lot better."

No disturbance of the stomach followed this treatment, and there was little, if any, soreness at the point where the needle was inserted.

D. W. Livermore.

Foxboro, Mass.

[This is but one of many reports of success with the emetine treatment, which is attracting the attention of the dental profession of this country as nothing heretofore introduced for the treatment of pyorrhea has done. This writer had the privilege of attending an "emetine clinic" held in New York some days ago. While, undoubtedly, there was a divergence of opinion as to the exact scope of the field of emetine in pyorrhea, the interest in this drug was remarkable, and the reports of success obtained with it were so flattering that they hardly could fail to convince any fair-minded observer that in emetine we have the sought-for cure for this disease.

Of course, it must be remembered that, after the roots of the teeth have been largely destroyed and the gum-tissue absorbed, we cannot restore the mouth to its former condition. To get best results, these cases must be treated early; but, even when the disease is well advanced, through the use of emetine (in association with proper dental treatment), remarkable benefit may be expected.

Dentists and physicians should cooperate in the treatment of these cases. Doctor Livermore has gone about the matter in the right way.—Ed.]

PERFECTION OF MODERN HOSPITAL TRAINS

From German sources, we get the following detailed description of a hospital-train, in operation, such as now are in quite general use for the transportation of the wounded soldiers of the armies of Germany and Austria-Hungary; information which no doubt will be read with interest by members of the medical profession.

Ordinarily these "lazarets on wheels" provide on an average 250 beds, and each coach (converted 4th-class order) holds 5 lower and 5 upper berths, arranged lengthwise on one side of the car. The kitchen-car is placed in the middle of the train. For each hospital-coach there is a "sanititian," who looks after the feeding of the patients, directs the nursing, and sees to it that the doctors' orders are carried out. To such a hospital-train there are assigned three or four physicians, so that each has from 70 to 90 beds under his control; while each is accompanied by a nurse (mostly these are "sisters" of religious orders) to assist him. One car is fitted up as a perfect operating-room in the most approved style; but, minor surgery can be performed in the bed-coaches. These trains are lovingly referred to as "Samaritans"; however, because of their great length, jocose soldiers call them tapeworms.

Before starting for the front, the entire train is cleaned and scientifically disinfected surgical and medicinal supplies are replenished, and the kitchen is provisioned for a two-weeks' period, not forgetting plenty of drinking-water. When all is ready, headquarters at the front is telegraphically notified, which thereupon wires orders as to departure and destination.

Of course, each coach is liberally and conspicuously decorated with the red Geneva cross, even the roof, for the benefit of enemy airmen. On the trip out, the time is occupied by getting everything in readiness—arranging the operating-room, sorting the medical supplies and distributing them to the coaches, fixing up the berths, arranging for the various grades of diet, and so on. Besides, the head surgeon, by systematic talks, thoroughly schools the personnel in their difficult and manifold duties.

Naturally, these costly hospital-trains are reserved for those more seriously wounded and the very sick, and these victims are

concentrated at railway-stations, and also nearby field lazarets, not too far in the rear of the firing-line. In anticipation of the train, the patients have been classified according to condition, and those fevering or suspected of having an infectious disease are kept back or at least are placed by themselves in the rearmost coach. Also, every patient has been tagged, and attached to his garments is a succinct written statement of the nature of his injury or disease and of the treatment given. As soon as arrived, the "good Samaritans" hasten to transfer these sufferers, handling them with the greatest gentleness possible and speaking soft words of encouragement. Then, we are told, these pitiable victims of a still crude humanity, as they are deposited upon their softly yielding bed in the nicely warmed room, gratefully whisper, "O, this is like heaven!" Picture to yourselves that fearful life in the trenches!

Instantly the train-corps of physicians, nurses, and sanititians get into action. The patients are undressed and provided with fresh nightshirts and warm stockings. All their garments and other belongings are numbered to correspond with their berths and transferred to the baggage-car, whence they go to the respective hospitals, and there are orderly stored so as to be readily accessible. Even in these matters, orderliness and cleanliness are the watchword. Meantime the cooks have been getting ready cauldrons of hot bouillon and light foods, and the men are strengthened with warm, nourishing drink and food.

Only now the real work of the medical attendants begins. Temporary dressings are removed, new ones are applied, needful cleansing spongings are done, and minor operations are performed; while men requiring major operations are carried to the operating-room car—but this only when the train is not moving; the latter sometimes even being specially held, on a sidetrack, for that purpose.

The work is most arduous and the staff get very little time for sleep. The surgeons, we are told, quickly learn to adjust themselves to the swaying motion of the (slow-moving) train and, standing on the step-ladder, are able, in many instances, to dress nicely the wounds of men occupying an upper berth; a hanging-strap for the left arm often serving to steady them. For more difficult dressing, the bed, with the occupant, is lifted out and set in the aisle.

And here is a picture of the human side in this heart-rending business. The train with its piteous burden is now rolling over German lands—a station in Germany—a halt. An aged man and woman are seen hastening toward the depot. On the platform of one of the cars they espy a surgeon on the lookout and excitedly call out, "Where is car No. 10? Our son, we are told, is there." They had received telegraphic advice. The good doctor tells them to follow, and meanwhile cheers the anxious parents by telling them that their son has been decorated with the iron cross, and that his wounds are not fatal. The thousands of touches of this kind, repeating themselves in innumerable forms, serve to show how today civilized nations are trying, by sympathetic foresight, to mitigate the horrors of war—which, it seems, the human race can not as yet entirely banish from the face of the earth.

Thus the surgeons and nurses are kept busy during many weary and wearying hours, until, at last, they get a chance to meet and sit down to a refreshing meal in the dining-car. The medical attendants now may retire, to catch a few hours of much-needed sleep; but, the chances for this are precarious. Hardly dozed away in a light nap, there rings the electric bell (installed all over) of the head surgeon, and the sanititian informs him over the telephone that the wound of a certain patient has started bleeding. Hurriedly he throws over his shoulders the manteau and makes his way to the sick soldier, again and again crossing over the storm-swept platforms as in the chill night he passes through car after car of that endless hospital-train. The necessary service is performed—and once again the right of the God of War to his victim has been disputed.

The journey, mayhap, is a long one, and meanwhile the condition of a number of the patients has grown threatening. The sanitary authorities at the first suitable town ahead are telegraphically advised, and they, fully equipped, await, at the station, the train, to take off the men and convey them to a hospital.

When the train arrives at its destination, it is met by an immense number of stretcher-bearers and automobiles, and a sanitary corps, these also having been notified by wire. Experienced physicians supervise the unloading of the wounded and direct their distribution; there being present many relatives and volunteers, prepared to take charge of them for private nursing.

After the routine documents and vouchers are made out and signed and reports are delivered, the now empty train is switched

aside, and the work of making it sanitary and replenishing supplies is started, the same with which this account began.

Latest reports have it that, in view of the ravages of typhus and typhoid fever in Serbia, as also in the Slavic provinces to the north, going hand in hand with the terrible prevalence of the infection-carrying body-lice, particular precautions now are being taken in cleaning, disinfecting, and freeing from lice and fleas all cars coming from the entire eastern seat of war, as well as from Serbia.

A. G. VOGELER.

Chicago, Ill.

FROM THE FIRING LINE

Among the officers and men along the trenches, there is a sort of anonymous conviction that the heaviest work of this war is yet to come, and that all our months of experience are only preliminary. In the hospitals, everyone seems to be conscious that the work before us will be more important and call for greater efforts, and surgeons everywhere are looking forward to diminish the obstacles and facilitate the rapid change of the wounded to the rear.

On a recent occasion, one of the receiving hospitals cared for, and passed to the rear, 600 wounded men, all within a few hours. The system has become so complete that a large number of surgeons and stretcher-bearers were concentrated at this point, and hardly before the last gun was fired they were on hand to pick up the wounded. The charge of the Germans had been exceptionally severe and persistent; and, when they were driven back in the front, they came back on either flank in such numbers and with such impetuosity that our troops fell back, although later they returned and regained the ground.

The wounds which were dressed were of every description, but head-wounds seemed to predominate. From the bayonet charges, there were cuts and bruises over the upper parts of the body, and most of the wounded bled profusely. This added to the confusion. The men themselves oftentimes were dazed and, although able to walk, did not know exactly where they were wounded.

This event, while not particularly unusual, showed how perfectly the system already had begun to operate, although miles away at headquarters notice was received that the Germans were massing in great numbers at a certain point, and, to meet their charge, orders were given to every available brigade in the neighborhood to concentrate along that line. The receiving hospital being very well situated, it was decided to keep it where it was, even if retreat were forced upon us.

The charge was made, with some little delay, and our magazine-guns did fearful execution, but seemed to have checked only in a slight degree the furious combat. The preceding artillery activity had indicated pretty clearly about where the charge would be the most severe, the supposition being that the line was weakest at this point; but, fortunately, a large force of men had arrived the night before and were waiting for distribution about three miles away. These, in a few moments, were on their way and were able to take part in the conflict, and did good work. The lines of the English and Canadians, which probably extended over 120 miles or more, were supposed to have about 2000 men to the mile in the trenches and back of them. At times this number is diminished, but the excellent roads and telephone facilities make it possible to concentrate at almost any point from 4,000 to 5,000 men; and this holds the Germans in check, although they probably adopt the same tactics in moving their men up and down the lines.

In retaking the lines, often the supervising surgeon goes down, to determine which is the most sanitary and also how, in case of a defeat or charge, the injured can be brought back in the most available way.

After the charge referred to above, I went over the battlefield and trenches which had been retaken and was horrified at the number of dead on both sides. Most of the wounded had been taken away and those who were likely to die had been removed out of the danger-zone a little, propped up on the ground and made as comfortable as possible, but the winrows of dead bodies were shocking to see, even to a veteran accustomed to sights of this kind.

The burial parties had begun their work, and long trenches, four or five feet deep, were filled with the bodies of friend and foe, indiscriminately thrown in, in every way and shape. It was a horribly gruesome task. There seemed to be very little effort to discriminate between the dead bodies or to remove any clothing. Guns, pistols, and bayonets were thrown out in a heap on the ground; the caps, overcoats, knapsacks, and all, everything went in in one promiscuous heap.

A sergeant apparently was taking notes of the number and other little data, particularly of the English and Canadians or of someone

who evidently was an officer. The trenches were about 20 or 30 feet long, 4 or 5 feet wide, and about the same depth, depending upon the hardness of the ground. They were covered with two or three feet of soil, and a few boards were put up to mark the boundaries. Then another trench would be dug several hundred feet away; this being governed, evidently, by the relative ease of making the excavation.

Many of the trenches had been broken up by the bursting shells, and some of these were utilized as trenches for the dead on the German side, new trenches being established by our men. It was necessary that the trenches be free from every obstacle and be located where they could be reached, either by day or by night, without extreme danger.

Formerly the receiving hospital floated a Red-Cross flag. This, instead of being a protection, was not unfrequently a target for German shells, and severe casualities followed. Now the hospitals have little red flags, discernable in the day time, and a red lamp in the night. When enemy air-men are in sight, these are taken down.

The question not infrequently comes to the supervising surgeon as to whether the body of an officer shall be interred in some special place or be placed in a casket and sent to the rear. Frequently the field hospital is unable to do more than inter the body and mark the place so that friends coming after can remove the remains. In cases of that kind, the clothes are saturated with carbolic acid, and this in some way preserves the body from immediate decay, so that it can be disinterred, inside of a few weeks, without being much changed.

The medical corps is becoming rapidly mobilized in the military sense. The firing-line surgeons are being changed and shifted here and there, so as to command the very best services possible. A number of men past 50 years have been assigned to the hospitals in this section, and their services are particularly valuable, because of the strong common sense which enables them to determine the questions that come up, above redtapism. One of these questions is, whether a given wounded man will bear transportation or will he die in a very short time. If death is impending, the instructions are, to place him in the best circumstances, and, if the wound is particularly serious, to make such adjustments and to provide for careful watching. The field hospital may be four or five miles away; so, although the transportation is made by motors, in fairly good condition, the question of whether the man will die or be further injured by this trip must be settled at once. While the telephone is available for instruction, the judgment of the medical man must determine the matter at once.

Among the wounded there are, occasionally, officers who come from distinguished families, and, while they are to be treated practically the same as the soldiers, every failure to give them all the attention required is likely to be brought up in the future. Thus, a lieutenant colonel had his arm blown off at the axilla. The blood-vessels had been tied, but the hemorrhage was so severe and the prostration so great that the question of his transportation was a serious one. The field hospital was in danger and arrangements had been made for a sudden removal back, if the emergency occurred. The head surgeon was appealed to, and finally the officer was taken to a ruined farmhouse, in the charge of two nurses, and kept there until he died a day or so later. Prompt inquiry was made as to what attention he received and who was responsible for the details of his care.

The soldiers who have been in the field a few months are growing impatient at the desultory work they are doing and are beginning to clamor for an advance. The officers join them, and the commanding general has quite a task to keep down the feeling that is growing that one great supreme effort should be made, at any sacrifice, and thus end the conflict.

The censorship is being relaxed, and, yet, the locations of the different troops and the deaths at the different conflicts are suppressed. The war is becoming a business and every day the means and methods of conducting it are becoming more and more perfected. The telephone and the motor cars are keeping us in close touch with the enemy in front of us, but the work of others on our side is more or less unknown. Moving up and down, as I do, I hear nothing but a constant roar of artillery; there is hardly an hour of the day in which one cannot hear the distant rumbling of heavy guns, even in bad weather.

The arrival of large trains of ammunition always seems an indication that some big event is about to take place—and then comes the end. It is understood that the absence of ammunition has prevented any great forward movement up to the present, yet, every day, the lines are growing closer and closer. The leave of absence is being restricted and officers are going over the front lines every day, evidently to determine questions for future conflict.

The controversy at home, over the spirit rations supplied to the soldiers, is the subject of considerable comment. Nearly all the regiments and officers in the section that I am attached to refuse to accept the spirit ration and declare that coffee is far more valuable. The sentiment prevails that the beer- and spirit-barons who have the goods to sell to the government are the real active agents in opposing all withdrawal of spirit rations. In the hospital service little or no spirits are used. The opinions of practical men are, that the reaction following its use is far more serious than the good claimed for it, whatever the occasions. At headquarters, among the officers, light wine and coffee are used, but no stronger spirits.

All the officers and surgeons are greatly pleased with the improved diet, in the form of soups that are served to the men. Probably in no other war was there such perfected dietary system, methods of preparation, and ease of distribution as at present.

It is certain that the troops along this line are in the very best condition for long and arduous work, which undoubtedly will come very soon.

"BRITON."

ANOTHER REMEDY FOR SCIATICA

I have read with interest and pleasure the reports of various methods of treating sciatica, as advocated by readers of CLINICAL MEDICINE. I want to suggest a method of treatment given me by my father, who graduated from the University of Michigan in 1854. He used this remedy for years, and with invariable success. Following his advice, I have used it myself ever since I began practice, and have found it effective, not only in sciatica, but also in other forms of neuritis. So far as I can remember, this remedy has not failed me once in 25 years; also, it acts just as nicely in the chronic type of sciatica as it does in the acute form, although a little more persistence is required when the case is chronic. How it cures, and why it cures, I cannot explain.

This remedy is ammonium chloride. I give it in 10- to 20-grain doses, three or four times a day, following it in every instance with at least half a glass of water.

O. F. BURROUGHS.

Plainwell, Mich.

A CASE OF PARALYSIS OF THE BLADDER

On March 4, at 11:40 o'clock in the evening, I delivered a young woman, 26 years of age, of her first child. She had been in labor approximately twenty hours, when I was given permission to use instruments, and at 11:40 p. m. a 12-pound baby girl, apparently in good health, was born. I say now, apparently, for it died on its second day from malæna neonatorum, the condition also known as apoplexy intestinalis neonatorum.

On Saturday, March 6, at about 3:00 p. m., I was notified that the child was having bloody stools. Having some emetine hydrochloride (Abbott) in ampules at the office, I took these along. I administered one injection, although I recognized that the child had lost too much blood to recover. In fact, it did pass away within half an hour afterward.

Now to the point. During all this time, the mother, as I was told, voided very little urine, although I personally know that she did pass a little on the second day, but not very much. So, on Saturday evening, March 6, I catheterized her for the first time since delivery and secured 7 pints of urine. She tried several times after that to void urine herself, but even strong pressure failed to expel any urine. So, I catheterized her twice a day, thinking and hoping that each day would bring a restoration of function.

On the third day following the first day of catheterization, the urine became very ammoniacal, whereupon I prescribed hexamethylenetetramine in 5-grain doses. I also gave her a mixture consisting of 6 drams fluid extract of peach-leaves, 4 drams corn-silk, and syrup of ginger to make 4 ounces; a teaspoonful to be taken every four hours, with a glass of water. In addition to that, I gave her arbutin tablets, one to be taken every two hours. I later stopped the hexamethylenetetramine and gave her sodium-bicarbonate tablets, with a glass of water.

Even though the patient was up and walking around, she still was unable to void urine. I then became alarmed, because at no time had I had a patient whose control of the bladder did not return within four or five days following delivery, and here was one who had gone thus far eighteen days.

On the evening of the eighteenth day, after previously having consulted several other physicians, I was advised by one to make an injection of glycerin into the bladder. I did this, but the woman was unable to bear the glycerin in the bladder more than six hours, as it caused too much of a burning and painful sensation. Consequently I had to catheterize. Subsequently, that same evening, I was advised to try pituitrin. So, I gave one

ampule, or 1 Cc., of pituitrin, but it brought no response, and she had to be catheterized again later.

The next day I repeated the pituitrin, double the dose, administering 2 Cc. at one dose, and then, after twenty minutes, for the first time in nineteen days the patient was able to void her urine naturally. I wish to add that certainly I felt a great deal of satisfaction and relief to see the woman able to urinate naturally. She has been able to do so ever since.

This occurrence of paralysis of the bladder resulted, in the first place, from the pressure exerted by the child upon the bladder and its surrounding tissues, causing the same to become edematous, and, secondly, the bladder-muscles lost their tonicity, by reason of the overdistention when I catheterized the first time and drew the 7 pints of urine; the normal capacity of the bladder being from 6 to 9, although as much as 24 ounces can be retained.

I may here state that I have used pituitrin a number of times as an oxytocic, but this is the first time that I have used it as a genito-urinary tonic.

William F. Schaare.

Chicago, Ill.

CHROMIUM SULPHATE IN SCIATICA

About ten years ago, Doctor Kolipinski, of Washington, published an article on chromium sulphate, lauding it as almost a panacea for a great many conditions. This article caused quite a sensation in medical circles, and our pharmacists manufactured and sold large quantities of chromium-sulphate tablets. I fell in line with the rest of my neighbor doctors and used these tablets for everything for which they had been recommended, with some very nice results, and some utter failures. During this time, however, I noticed that chromium sulphate had its best effects on certain of my neurotic cases.

My first experience with it in sciatica was about seven years ago. I had been treating the most severe case that I had ever seen of this ailment, using everything I knew of or could read about, internally and externally—tonics, anodynes, poultices, blisters, and almost the lethal dose of morphine intramuscularly at every visit—all with no noticeable result. One night, as I left, entirely discouraged, not knowing what to try next, I poured out a bunch of chromium-sulphate tablets, 4-grain, with the main idea of making my escape. After two or three days, a messenger came in, asking for "some more of the green tablets," stating that the patient had been easy ever since I left these with him.

After this experience, I used chromium sulphate in every case of the kind, and scarcely ever have a failure in sciatica, lumbago, neuralgia of the femoral nerve, recurrent neuralgias from old injuries of the spinal column, and even in Pott's disease. I have also observed that no relief is obtained in case of inflammatory rheumatism or any other true rheumatic condition.

Many make the mistake of giving too small doses. If I use chromium sulphate, I give from 32 to 40 grains daily. Sixteen grains will give little or no results. I have not observed any untoward results from 40 grains daily, except sometimes the patient complains of a feeling of heat in the skin. When I observe this symptom I reduce the dose or stop the drug until it is needed again for the pain, should it return.

I should like to know if others are getting similar results with chromium sulphate in this sort of work. I could give many case reports if desired.

B. M. Armstrong.

Ben Lomond, Ark.

HELPING LADY NICOTINE

Dr. A. P. Reed, in the May issue of The American Journal of Clinical Medicine, takes me severely to task for neglecting to walk roughshod over the prostrate form of Lady Nicotine. He believes me reprehensible in not pushing the old lady's face a little deeper into the mud of disrepute—instead of standing her on her feet, brushing off her clothes, turning an attentive, sympathetic ear to her story, and then sending her on her way rejoicing.

I regret that Doctor Reed feels this dereliction of mine, but I carry no brief against tobacco. Neither am I an advocate of its use. I use it; I also wear No. 7 shoes and a 6 7-8 hat. But it does not necessarily follow that these things are as well adapted to others as they are to me.

I know tobacco to be a baneful, noxious weed, chuckful of poison. And, yet, it may have a limited field of usefulness. For instance: the hellish lot of millions of poor European fools who, notwithstanding ostensible mental qualifications, haven't intelligence sufficient to realize that they are being exploited for commercial gain, undoubtedly is rendered more bearable because of the nicotizing influence of tobacco.

I am quite certain that, were their tricky, cunning, scheming capitalistic and militaristic masters to refuse to furnish them the palliative weed, these brainless ones would go mad in shrieking droves. (Perhaps it might be a good thing were it so, but, we are discussing the subject from a medical and not from a philosophical standpoint.)

I know that smoking assists peristalsis; that it soothes nerves irritated by hard reading, study or work; that a very limited indulgence is relatively harmless.

Yet, tobacco is a poison, the sale of which to growing children should constitute a penal offense. In excess of two or three cigars between dinner and bedtime, it causes me insomnia, tachycardia, and extreme restlessness. That's one reason why I am such a mild and moderate smoker.

But, as I said before, I wear No. 7 shoes, and I have no brief, either, for or against tobacco. I gave Lady Nicotine a gentleman's chance and stated both sides of her question as fairly as I knew how—merely as an individual.

EDWIN F. BOWERS.

New York City.

CURING HAY-FEVER

The hay-fever patient will soon be knocking at our doors again. His name is legion. Heretofore he has been a dread as well as an embarrassment. Can we really do anything for him now? It is the burden of this short article to answer affirmatively.

The treatment to be presented is based upon the proposition that hay-fever is a symptom-complex owing to a double infection: first, by pollen-toxin; second, by bacterial invasion. The underlying theory of treatment is that of establishing an immunity to both. The reason for claiming that this can be done is the fact that I have done it. I have failed to do it, too, in some instances, but only in cases where the patient either could not or would not carry out the treatment prescribed.

Two years ago, I began treating hay-fever patients with hypodermics of pollen-toxin, made from Spanish-needle, ragweed, and golden-rod; this toxin being extracted by the cold-brine process, the details of which have appeared previously in this publication. The results have been so satisfactory to myself, and to my patients, as to make me feel justified in giving such publicity to the treatment as I may be able to do, to the end that other physicians might also take up this idea, and help develop it to its highest point of efficiency. There is no secrecy about it. I am not posing as a discoverer or assuming any airs of proprietorship. Any physician having ordinary laboratory-equipment and a disposition to do hard, painstaking work can prepare this pollen-extract.

The dose of this preparation varies from 1-100 Cc. to 1 Cc., and it is repeated from once a week to once a day, according to the exigencies of the case. Any patient who can be brought to the point of taking as much as 1-2 Cc., without there occurring local reaction, is very likely to find himself immune to hay-fever. Treatments had best be begun six weeks or more before the time of the expected attack of the malady. The extract produces no reaction in persons who never have had hay-fever. Those having bacterial infection of the respiratory tract should be given the proper bacterin, in connection with the pollen-extract.

A few clinical cases will serve to illustrate, both the method and the results of the treatment.

Case 1. Mrs. B., age 48. Hay fever for past seventeen years. Lasts from August 17 until December. So severe as to confine her to bed part of the time. Preventive treatment began July 15, when, after spraying the site of injection with ethyl chloride, I gave a hypodermic injection of pollen-extract, 0.1 Cc. No reaction. Two days later, doubled the dose. No reaction. After three days, doubled the second dose. Slight redness at site of injection after twelve hours. Subsided in three days, when a dose of same size was given. Dose not increased, until it failed to produce local reaction. Dosage gradually increased, until, on the 17th of August, she was taking 0.4 Cc. Hay-fever did not appear. Treatments discontinued.

On September 5, patient got caught in rainstorm and immediately began to exhibit all the symptoms of hay-fever, with a marked croupiness added. Microscopic examination of nasal discharges showed the presence of pneumococci, staphylococci, and micrococci catarrhalis. A corresponding stock bacterin was assembled and a dose administered simultaneously with 0.4 Cc. of pollen-extract. After twenty-four hours, there was but very little relief, and 0.5 Cc. of pollen-extract was given hypodermatically, although the previous injection had produced considerable local reaction. Relief was almost instantaneous. The last dose was then repeated, together with the bacterin, every three days, until five doses were taken. No return of hay-fever

symptoms. The last five hypodermics may have been unnecessary, but, manifestly, they did no harm.

Case 2. Mrs. H., age 51. Hay-fever for twenty-four years. Begins in June, lasts until January. Eyes so sensitive to light during that time as to make reading an impossibility. Many resorts had been visited, with indifferent success. Asthmatic for several years past; uricacidemia, which was corrected before treatment was begun. Patient had come a long distance and wanted treatment pushed actively. She was possessed of little confidence, and I promised her nothing, except that I should do my best for her.

The first dose of 0.01 Cc. produced no reaction, so, the dosage was rapidly increased, in spite of severe local reactions. Several times, large doses brought on very marked aggravations of all her symptoms, but they would subside after a few hours, when another large dose was given. Treatment was begun September 5 and discontinued September 19, at which time the patient was free from hay-fever symptoms and returned home. There has been no return. In a recent letter, the woman declares that this summer she is going to fill Carthage with hay-fever patients of her personal selection.

Case 3. Miss B., age 24, professional nurse. Hyperesthetic rhinitis of eighteen months' duration. No discoverable abnormality in nose. Had had much local treatment at the hands of nose-and-throat specialists, with but temporary relief. Colorless nasal discharge, in which no bacteria were found. General health good. Began treatment with minimum dosage, gradually working up to 0.3 Cc. in six weeks. Complete relief, which has continued for almost a year.

Case 4. Mr. M., farmer, age 55. Hay-fever with asthma for five years. Entirely incapacitated during two months of each year. Unable to walk even a block or two, on account of dyspnea. No complications. Initial dose, 0.1 Cc., gradually increased every third day. Relief after five treatments, when he assumed his regular duties. No relapse after eight months.

Cases 5 and 6. Both are initial attacks. Both cases of Spanish-needle pollen infection; seemingly at least. One is a lady; the other a middle-aged gentleman. Both were infected early in September. Both cases were severe. Both had temperature above 100 degrees. The lady required two doses of pollen-extract, 0.1 Cc., while the gentleman needed but one. Both were relieved after a few hours. Neither had a relapse.

Now I will record my unsatisfactory and failure cases, as follows:

Case 1. Miss H., age 35. Hay-fever the past fifteen years, beginning August 15 and lasting throughout the season. Lives in neighboring village. Unwilling to have full examination. Took five treatments in an irregular way. Could see no effect at all from the treatment. Wanted a heroic dose. Unfortunately, I gave it to her. Within an hour, she was so asthmatic that she was unable to ride home on the street-car. Within five hours, her eyes were swollen shut; bullæ covered her body, and were almost big enough to "hang one's hat upon." The hands swelled. There was general muscular stiffness, especially about the joints, which were inclined to redden. Heart and pulse unaffected. All these symptoms disappeared within twenty-four hours, but the patient took no more treatment.

Case 2. Mr. B., age 45. Traveling salesman. Unable to take treatment, except on each Sunday. In midst of a severe attack. First injection of the minimum dose relieved him completely for two days, but he could not return for treatment, on account of his business (which, by the way, took him over long drives in a section of the country teeming with Spanish-needle), until his week was up. Next treatment failed to relieve him so phenomenally. Third dose gave much relief, but his arm became very red and swollen. The dose was too large. Should have been smaller and repeated more frequently. Fourth dose accomplished little besides aggravating the condition of his arm. Patient had an enlarged turbinate, which he was not in position to have remedied. Treatment discontinued.

Case 3. Mr. M., age 60. Hay-fever severely for many years. Usually began August 14. On August 7, took preventive dose of 0.1 Cc. Four hours afterward, a severe attack of hay-fever seized him, and an outburst of wheals added insult to injury. No more hay-fever extract for him!

Case 4. Mrs. M., age 50. Hay-fever seventeen years. Asthmatic accompaniment. Pollen-extract, 0.1 Cc., brought on a violent attack of hay-fever and asthma, although her regular attack was not due for almost a month. Symptoms all subsided after twelve hours. A week later, 0.01 Cc. failed to react. Patient unable to take treatment with any sort of regularity. Hay-fever developed about the last of August—over two weeks late. First time in seventeen years that the attack came later than August 15.

A dose of the pollen-extract would keep her symptomless for two days after its administration, but the patient was so situated that she could not take treatment that often. Discontinued.

Case 5. This gentleman was to pay only if the treatment was a success. (A policy quickly abandoned by me, however.) He was kept absolutely free from hay-fever by twice-a-week hypodermics of pollen-extract, until a week before frost, when he stopped coming for treatment. Has not been in the office since.

This is my complete list of socalled failures, so far as I am able to recall them at the present time. I could extend my list, of cures, greatly.

The conclusion is, that this pollen-extract is, or appears to be, effective. In justice to your hay-fever friends, why not give it a thorough and impartial tryout?

How long will this immunity to hay-fever last? Will patients have to take this treatment every year, in order to escape an attack? I do not know. It will take time and experience to determine that.

Is the treatment harmless? In intelligent hands, yes. In this paper, I am telling positively my worst experience with it. Last summer, a physician gave a patient 1 1-2 Cc. in one hypodermic dose, by mistake. The patient, in an hour, had nausea and vomiting, violent sneezing, hoarseness, asthma, flushed face, and swelling of face and hands. All of which soon wore off, and the patient went automobiling a few hours after the overdosing.

Does the pollen-extract keep well? In the dilutions, yes, if not subjected to a temperature above 100° F., but the mass is likely to spoil in the making. Many of my "batches" I have found to be inert, when I thought them about ready for use. After getting the extract made, be sure to test it out in every possible way, before administering it to patients.

Can the average general practitioner employ this treatment successfully? He certainly can, if he will prepare himself for it and will work at it hard enough. A case-record must be made out completely in every instance, and a record of the dosage must be kept accurately. But, then, should not one do that same in every kind of a case?

E. J. Burch.

Carthage, Mo.

[Doctor Burch's remedy is of the same general character as Dunbar's "pollantin," which has been on the market for several years, and has proven quite effective. Unfortunately, we have no specific for hay-fever as yet, and we doubt if the remedy proposed by the doctor will prove to be one. We shall still require remedies and measures looking to the removal of local sources of irritation, correction of systemic dyscrasias—especially acidemia, relief of local congestion, and the like. But the report given is interesting and suggestive and warrants further investigation.—Ed.]

GO TO PAGOSA SPRINGS FOR THAT VACATION

In the June number of Clinical Medicine you ask for suggestions as to how the doctor may spend his vacation. Here is the answer. Come to Pagosa Springs, in southwestern Colorado! Let me tell you why. In the first place, we have the largest and, I think, the best hot spring on earth. The spring has a temperature of 156° F., and medicinally is very similar to the waters at Carlsbad, except that our water is even stronger.

Nor is this our only attraction. We have mountains and streams, beautiful as Switzerland; plenty of trout for the fishermen; and after the middle of August anyone who likes to hunt will find grouse here in abundance. We are only a short distance from Mesa Verda, the National Park of the Cliff Dwellers. This is a place in which anyone interested in the history of the first real Americans will find delight.

Pagosa Springs is not a place for a man who is just looking for comfort, and wants all the delights of civilization; but for any real *live* man, who loves God's fresh air and the grandeur of mountain scenery and wants to get into touch with nature at her best, far from the roar and rattle of city streets, this is surely the place.

Come to Pagosa Springs. Come here now and you will come again. You can reach us by way of Denver, Pueblo or Colorado Springs over the Denver and Rio Grande Railroad.

A. J. Nossaman.

Pagosa Springs, Colo.

THE CONTROL OF CANCER

Of all the problems yet remaining for solution by medical science, that of cancer is by all odds the furthest reaching, and of most serious import to mankind at large. Cancer

is a terrible disease. It not only slays its tens of thousands, but slays them in a particularly horrible fashion, so that I suppose it is dreaded—and justly dreaded—more than any other form of disease and death that flesh is heir to. Moreover, it would seem to be the one pathologic condition which has steadily refused, and up to the present moment continues to refuse, to yield any single iota of trustworthy information concerning itself to modern research, in spite of the persistent, systematic effort directed toward the task from every angle of attack. We really know nothing definite about its etiology, or even about its pathology, except as to end-pathology.

This being the case, we can neither prevent nor cure cancer, in the same sense, or with the same certainty, that we can prevent and cure infectious diseases, for example. Yet, even in the unsatisfactory state of our knowledge on the subject, it would be untrue to say that we are utterly without means of controlling its occurrence and its course, and nothing short of criminal to stand idly by, in supine inactivity, while this terrible scourge wreaks its harvest of suffering and death. The very fact that we cannot yet definitely prevent or cure, so far from furnishing ground for inaction, makes an extra demand upon us that we apply, with additional energy and diligence, the limited knowledge that we do possess to the control and mitigation of the evil.

There are a few practical points that we know about cancer. The one point that stands out conspicuously above all others in our limited knowledge, is that the only hope of relief lies in early diagnosis and extirpation. Upon this all-important axiom we must continually harp, both in our own practice and in our admonition to the public. Eternal vigilance is the price of safety. We and they must not, cannot, dally. Whatever else we do, or do not do, in our attack upon the cancer problem, this is for the present our practical duty to ourselves and our clients.

This being recognized and vigorously carried out, there is another important duty resting upon the medical fraternity, namely, to promote and disseminate by every available means all the research and observation and data, experimental and clinical, that modern facilities and modern fertility affords. To this end, the American Society for the Control of Cancer is conducting a praiseworthy, unremitting propaganda, in which it deserves the support of every medical journal, and every other agency of publicity in the medical world.

At its May meeting, the Medical Society of the County of New York, with the cooperation of the American Society for the Control of Cancer, devoted an entire section of its program to the discussion of this momentous subject. Such a course cannot fail to be productive of an immense amount of good. After all, the real propagators of all medical campaigns are the men in the field, the practitioners. Only through them can the American Society for the Control of Cancer effectively spread its propaganda, and achieve its purposes. And the best way to reach the practitioners is through their local organizations. We most heartily commend the example of the New York County Society to the imitation of all local medical organizations. The American Society for the Control of Cancer will be only too happy to cooperate with any medical society in a step of this kind; and a wide-open discussion of the subject of cancer, in all of its aspects, will do more than anything else to awaken a lively, practical interest in this fearful plague, which calls loudly enough, God knows, for intelligent interest and action.

CORRECTION

Dr. E. H. Sholl, Birmingham, Alabama, writes us that an error was made in his article published on page 576, June number of Clinical Medicine. The dose of mercuric chloride should have been 1-16 grain every two hours, instead of 1-12 grain, as printed. Please look up his article and make necessary correction.

CURING DRUG HABITS

I enjoyed Doctor Waugh's excellent article on drug habits, published in the April number of Clinical Medicine. However, years of experience in the treatment of these cases of habituation have convinced me that a more gradual withdrawal of the drug, as the needs of the patient may determine, is better than to cut off the narcotic too suddenly, The withdrawal discomforts are insignificant, and the patient does not know when he has entirely ceased the use of the drug. Under the eliminant-tonic treatment, he eats naturally, gains in weight, and sleeps well.

The general practitioner is unsuccessful in treating these cases because he cannot give every patient the individual care and time required.

C. E. Young.

Columbia, S. C.

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

"WHERE ignorance is bliss 'tis folly to be wise;" but how often is this bliss painful to those upon whom it is pitilessly inflicted. Many must be the instances in which the physician is influenced unduly by the sapient and unequivocal assertions of lay patients as to the causes and effects of certain conditions. They have experienced a strange sensation or undergone the discomforts of a certain ailment, and forthwith the doctor is thoroughly enlightened as to the cause, the condition present, and what "I believe would be the best thing in the world for me." To escape from such a philosophic recital is impossible without being insulting or rude, and the patient medical man must receive this enlightening bit of information as though it were the goddess of wisdom herself to whom he is indebted for such learning.

Whether from habitual listening to these wearisome tales or whether from a lack of ambition to get at the ground facts of the case in hand, too many physicians have yielded to the easy way of allowing a patient to diagnose his own case or at least to give too much credence to his more or less remarkable statements. In time, one might be led to the condition of apathy as regards investigation, in which a certain doctor was, who, when asked concerning a patient whose history he was reciting, "if there was any atrophy of the liver," replied: "No, I guess not; he said he didn't have any." This perhaps is somewhat overdrawn, but we all know of truthful incidents almost as absurd. But doubtless this patient, if of the stamp of hundreds whom we run across, was thoroughly capable, in his own estimation, of judging whether or not he was afflicted with that obscure condition.

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No less positive is the interested relative or friend who comes into your office, to ask the cause of the death of the former patient, and then proceeds with a continuous and lengthy dissertation on the "reason it all happened," leading you with word-pictures, "fearfully and wonderfully made," from the beginning "inflymation" which "orter bin checked" to the more dread stages of "cancer, ulciration and conjestion." Horrible progress of disease, more horribly elucidated!

With somewhat more polish and elegance of diction, but with equally positive knowledge (?), there frequently appear statements, not alone in the secular press, but in medical journals as well, which are set forth with the utmost confidence as to the correctness of their publication as though there were no possible condition to prove the contrary. For instance, recently I read, in a medical journal, an account of a tropical expedition of military troops who, through officers and press, testified that "the surprising success with which they had met was in great part due to the moderation, amounting to almost total abstinence, with which they had indulged in alcoholic beverages."

This may have been a great influence for success, but may there not have been other circumstances favorable to the outcome, especially food, favorable winds, and remarkable mental inspiration and determination?

There is nothing that happens because of one condition or influence alone; the same dose of drug administered in the same way does not produce identical results in two different individuals, because of personal differences. Hence, we may not justly attribute the opposing results to the faulty administration, for instance, in one of the cases merely because that idea is uppermost in our mind. This is a fault that should be overcome, namely, jumping at conclusions as to the influence of a certain fact because of its prominence in our interest. We do not mean to encourage cynicism, but let one consider the various phases and conditions bearing upon a subject before passing judgment upon its merits or accepting as unconditionally true any statement that may be made regarding it.

The real object of education is, to give children resources that will endure as long as

life; that time will ameliorate, not destroy; occupation that will render sickness tolerable, solitude pleasant, age venerable, life more dignified and useful, and death less terrible. The early instruction imbibed from a parent's life has the strongest influence in forming the future character. Before the mind is mature enough to think for itself, we look to those whom nature has constituted our guardians to correct and sanction our opinions. In this way, the parental authority gains a hold upon the minds of children that can never be annihilated. And fortunate, indeed, would it be if the result always were the formation of a noble and manly character. The contemplation of the period of childhood—the earliest springtime of human life—is replete with the most tender interest.

We should remember that the system of the child is capable of constant modification; hence, it is our duty, as well as in our power, in a great degree, to impart, both mentally and physically, that standard of health so essential to the happiness of the child. Of all the acts of folly and cruelty of which parental blindness can be guilty, there is none more to be lamented than that which, from the pride of display or even more the generous desire for improvement, induces anyone to press upon infancy the task fitted for youth or to demand from youth the wisdom of manhood. It is rending and scattering the blossoms in order to reach the fruit, which, if obtained, is immature, unnatural, and, therefore, unpleasant; it is the conduct of an Egyptian taskmaster demanding a work without material which forms it—an arraigning of the wisdom and providence of God, who, in rendering man the most perfect of His creatures, has, yet, evidently made his progress the slowest toward the attainment of his powers.

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That indolence must be conquered and industry excited in children there is no denying. Can the recitation of the most difficult subjects or intense study at ten years ofage, the power of playing difficult music at sight by fingers not half-grown, or any of the wonders we see and hear so much of, repay a blooming girl for the roses that are vanished, the breath that is shortened, the appetite that is fled, the spine that is curved, the sense of joyful existence which once danced in her eyes, vibrated through her nerves and was heard in every thrilling accent?

While the energy of the vital system is uninjured and its manifestations in the various organs are in due harmony throughout with the state of the structures with which they are associated, all the operations of the body are duly and steadily performed. This is the condition which may be termed health. But, as soon as the mental powers are overtaxed, a change takes place throughout the whole system, and disease supervenes.

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At any time of life, excessive and continued mental exertion is hurtful, but in infancy and early youth, when the structure of the brain still is immature and delicate, permanent injury is more easily produced by injudicious treatment than at any subsequent period. In this respect, the analogy is complete between the brain and the other parts of the body, as is exemplified in the injurious effects of premature exercise of the bones and muscles. Scrofulous and rickety children are the most usual sufferers in this way. They generally are remarkable for large heads, great precocity of understanding, and small, delicate bodies. But, in such instances, the great size of the brain and the acuteness of the mind are the results of morbid growth, and even with the best management the child passes the first years of its life constantly on the brink of active disease.

Instead, however, of trying to repress its mental activity, as they should, the fond parents, misled by the promise of genius, too often excite it still further by unceasing cultivation and the never-failing stimulus of praise; and finding its progress, for a time, equal to their warmest wishes, they look forward with ecstasy to the day when its talent will break forth and shed a luster on their name. But, in exact proportion as the picture becomes brighter to their fancy, the probability of its becoming realized becomes less; for, the brain, worn out by premature exertion, either becomes diseased or loses its tone, leaving the mental powers feeble and depressed for the remainder of life. The expected prodigy thus, in the end, is easily outstripped in the social race by many whose dull outset promised him an easy victory.

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To him who takes for his guide the necessities of the constitution, it will be obvious that the modes of treatment commonly resorted to should, in such cases, be reversed; and that, instead of straining to the utmost the already irritable powers of the precocious child, leaving his dull competitors to ripen at leisure, a systematic attempt ought to be made, from early infancy, to rouse to action the languid faculties of the latter, while no pains should be spared to moderate and give

tone to the activity of the former. But, instead of this, the prematurely intelligent child generally is sent to school and tasked with lessons at an unusually early age; while the healthy but more backward boy, who requires to be stimulated, is kept at home in idleness merely on account of his backwardness. A double error is here committed, and the consequences to the active-minded boy not infrequently are the permanent loss both of health and of his envied superiority of intellect.

Many of these precocious overworked children die early, when but six or eight years of age, but manifest to the last a maturity of understanding, which only increases the agony of separation. Their minds, like some of the fairest flowers, no sooner are blown than blasted. Others grow up to manhood, but with feeble bodies and disordered nervous systems, which subject them to hypochondriasis, neurasthenia, hysteria, and all the protean forms of nervous disease. Others of the class of early prodigies exhibit in manhood but small mental powers and are the mere passive instruments of those who in early life were accounted far their inferiors.

As a warning to parents not to force education too soon or too fast, their dire results may be truly profitable both to parents and children and a benefit to the cause of education; but, as an example to be followed, it assuredly cannot be too strongly or too loudly condemned.

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By disinfection, I mean the destruction of the infecting power of infectious material. The object of disinfection is, to destroy infectious material of all kind, wherever it may be found, and thus to restrict the prevalence of infectious disease. The power of a given chemical agent to destroy disease-germs depends upon several conditions, as follows: the kind of germ; the presence or absence of spores; the nature and quantity of associated material; the number of the noxious microbes; the time of exposure; the temperature; and the degree of dilution.

Nascent oxygen is a very potent disinfecting agent. Hydrogen peroxide comes under the oxidizing disinfectants. Potassium permanganate, chlorine, iodine, and chlorinated lime are other oxidizing disinfectants. Alkalis and certain acids also are used as disinfectants. Among the metallic salts, mercuric chloride is the strongest disinfectant, but it is very poisonous. Copper- and silver-salts also are used for this purpose. Among the coal-tar products, carbolic acid, kresol and creolin are the most popular ones; creolin, however, is a more potent germicide than is carbolic acid, while kresol is more potent than either, especially for spores.

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Disinfectants are also antiseptics. By an antiseptic, I mean an agent which prevents septic decomposition by preventing the development of microorganisms which cause it; and we extend the use of the term to the restraining influence exercised upon other microorganisms of the same class, including the pathologic bacteria or germs of infectious diseases.

The difference between an antiseptic and a disinfectant is illustrated by such an agent as thymol, which stands above carbolic acid as an antiseptic and, yet, has one-fourth its value as a disinfectant. The difference is still more marked in the case of hydrogen peroxide, which is a very potent antiseptic, but has comparatively little germicide value.

In therapeutics, therefore, if we can restrain the development of a pathologic bacillus, we practically render it harmless or at least restrict its power for mischief within limits compatible with the safety of the patient.

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The fashion in disinfectants and antiseptics is constantly changing. It was not long ago that carbolic acid and iodoform were the principal agents used. Then someone said these were of no value, and they were discarded. Then bichloride of mercury led the race, but, owing to its poisonous properties, it is used but little now, and should not be used at all; it should be prohibited the same as poison flypaper. At present, tincture of iodine has the vogue; it is efficient, but dangerous.

There is one powerful disinfectant and antiseptic which is absolutely nonpoisonous, may be taken internally or applied externally without causing harmful results. This disinfectant is known as chinosol; however, it hasn't received the unqualified indorsement of the C. of P. & C. and, so, it is not employed to the extent it ought to be. We use it at Mudlavia wherever a disinfectant and antiseptic is required and always have found it pleasant, absolutely safe, and highly effective. It's good stuff, and I predict it will be used as extensively as carbolic acid once was used, and then some time, perhaps, some new agent will be introduced that will supplant this and all others in use today.

(To be continued.)

Among the Books

FITZWILLIAMS: "NURSING-MANUAL"

A Nursing-Manual for Nurses and Nursing Orderlies. By Donald C. L. Fitzwilliams, M. D. New York: Oxford University Press. 1914. Price $2.00.

The frankly avowed motive for the issuance of this manual lies in the need created by the war. It is designed to increase medical knowledge among nurses, orderlies, and Red Cross workers, so as to promote their efficiency and thereby help to relieve suffering among the war victims. First aid in the war naturally is dealt with very fully, in the hope that it will prove valuable to members of the Territorial Units of the Royal Army Medical Corps.

However, there is nothing in the book's aim that would detract from its value in times of peace or for nurses engaged in the ordinary prosecution of their profession. It is, in fact, a very complete and comprehensive manual of the entire subject of sick-nursing, including even the physiology and anatomy pertinent to the nurse's work—so complete and comprehensive that it might well serve as the sole textbook of a nurse's training course. Like most English books, it is written in clear, incisive style. Typographically, the makeup is excellent, the type is exceedingly plain and legible (with an eye, presumably, to its being read by camp-fires and tent-lamps), and the illustrations illuminating.

MACNAUGHTON-JONES: "AMBIDEXTERITY"

Ambidexterity, and Mental Culture. By H. Macnaughton-Jones, M. D. New York: The Rebman Company. 1914. Price 75 cents.

A strong plea for the teaching of ambidexterity. The author makes no attempt to solve the vexed problem of the origin of man's preference for using the right hand rather than the left. Nor does he seriously credit the prevalent theories regarding this fact. He is content to regard the phenomenon as arising from some accidental starting-point at which heredity, environment, and education began to give, and have continued to give, the preponderance of choice to the use of the right hand; and he argues that, if from infancy up these same forces are utilized to neutralize that choice, they will, in a large proportion of men and women, tend to equalize the use of both hands. He further asserts that a mass of collected evidence proves that the cultivation of ambidextrous exercises, both in art and writing, has a decided influence upon the mind of the growing child, and thus upon the formation of its character.

It is upon these premises that the author bases an earnest plea for a systematic training in the use of the two hands. He anticipates the time when it no longer will be rare, but the rule, to find men and women workers equally proficient in execution with both hands, and predicts that there will be a corresponding gain to the mental side of life. Those who are interested in learning his arguments are invited to procure and read this little book.

PAGE: "THE FORD CAR"

The Model T Ford Car: Its Construction, Operation and Repair. By Victor Pagé, M. E., Member, Society of Automobile Engineers, Author of "The Modern Gasoline Automobile," etc. New York: The Norman W. Henley Publishing Company. 1915. Price $1.00.

It is said that 900,000 Ford cars are in operation in this country. How many of these have been bought by physicians we are not able to say, but from personal knowledge we would think it likely that at least 75,000 Ford cars have, at some time, been operated by members of the medical profession. Probably 50,000 doctors are using this little car this very day. Inasmuch as nearly every doctor is also his own chauffeur and must keep his car running day and night, under all kinds of conditions, in all sorts of weather, in all sorts of places, and over all sorts of roads, it is certainly desirable that he know enough about the car so that he can keep it on the jump.

A little book like this one by Pagé should provide every doctor with just the information he needs. It describes all parts of the Ford automobile, and gives complete instructions for driving and maintenance. There are numerous charts and illustrations, and every possible mechanical problem and complication is made so plain, and the remedy for the "trouble" pointed out so clearly, that anyone who has read this book, or even has it in his satchel, should be prepared for every possible emergency.

WOOLLEY: "THE CLINICAL HISTORY"

The Clinical History in Outline. By Paul G. Woolley, M. D., Professor of Pathology, University of Cincinnati. St. Louis: The C. V. Mosby Company. 1914. Price $1.00.

The author, realizing the value of a thorough clinical history in forming the basis of educational measures that will teach a patient how to avoid recurrences of the disease from which he is suffering and the sequels of the disorder, as well as in arriving at a diagnosis and plan of treatment, has drawn up a systematic scheme by following which the student or practitioner may arrange the facts concerning his patient in an orderly way.

The book makes no attempt, of course, to take, automatically, a clinical history. It simply points the way to do it, and serves as a reminder of points to be considered. It includes a consideration of the patient's own complaint, the family history, the personal history, the history of the present illness, the physical examination, and special examinations. It also contains interpretative tables of common symptoms and of topographical forms of pain.

ADAMS: "CHRONIC LEG-ULCERS"

Treatment of Chronic Ulcers of the Leg. By Edward Adams, M. D. New York: The International Journal of Surgery. 1914. Price $1.00.

Presumably the contents of the book represent a series of articles that were formerly published in the pages of *The International Journal of Surgery*. The author explains that he has been impressed with the fact that too little attention has been paid to the diagnosis of chronic ulcers of the leg, and this book represents an attempt to rectify this defect in medical literature. He has considered, here, the essential diagnostic points of each of the more common varieties of leg-ulcer before he enters into their treatment. While the work to a large extent reflects the personal views and observations and experiences of the author, in his hospital and private practice, he has, he informs us, omitted nothing that might contribute to a successful management of the commonly met classes of cases.

PALOTAY'S CHEMICAL CHART

Palotay's Chemical Chart. Compiled from Standard Textbooks as a Condensed Reference Guide. By Dr. Jul. A. Palotay, Los Angeles, Cal. Published by the author. Price $2.50, net; postage 25 cents.

Doctor Palotay has performed a most valuable and practical, not to say arduous, piece of work. He has charted for us, in tabular form, all of the chemical elements, with all the data that pertain to them. On one side of the chart, there is an alphabetical list of the elements, against each of which are extended, in a series of columns, the atomic weight, valency, physical condition, electrochemical character, melting-point, boiling-point, specific gravity, history, occurrence, properties, preparation, tests, compounds, and uses; so that, by running one's finger along the chart, as it hangs upon the wall, one can get, at a glance, all this direct and collateral information about each element. In the lower part of this side of the chart, the elements are grouped in various classifications, as to their electrochemical behavior, radical relations, and other phases. On the reverse, there are presented a series of working-tables and formulæ for working out chemical problems. In fact, the chart is a schematic visualization of the entire subject-matter of chemistry and ought to prove especially valuable to teacher and student in the study of chemistry in lecture-room and laboratory.

MACDONALD: "PRACTICAL PRESCRIBER"

The Practitioner's Practical Prescriber and Epitome of Symptomatic Treatment. By D. M. MacDonald, M. D. New York: Oxford University Press. 1913. Price $1.50.

In this country, there are so many of these little pocket-dictionaries of treatment that they have almost become a drug on the market—at all events, greatly in excess of the real need for such publications, so that there has been created a false demand for them. In England, they are not nearly so numerous, and there still may be a legitimate field for them.

There really is a legitimate use for these booklets, of course. Frequently a physician feels the need of a quick and ready reference to the tables and formulas which they contain, and when he encounters such a need he "wants what he wants when he wants it." The best of doctors cannot carry all these details in his head, any more than an engineer can carry all his calculations and measurements. For such a purpose, such a pocket-formulary and prescriber is invaluable; and because of such a purpose it always will have a place among medical publications. Unfortunately, as intimated, it acquires a wrong and vicious use—that of a specious shortcut, a lazy substitute for genuine knowledge of therapeutics.

Doctor MacDonald's manual is as good as the majority of such books. It seems a little anachronous, though, that a manual of treatment of the twentieth century should confine itself to drug-therapy, without a word of physiologics or biologics, or even of hygiene. Some of our American epitomes do better than that.

"INTERNATIONAL CLINICS"

International Clinics: A Quarterly of Illustrated Clinical Lectures and Original Articles. Edited by Henry W. Cattell, A. M., M. D. Volume II. Twenty-fifth Series. 1915. Philadelphia and London: The J. B. Lippincott Company. Price $2.00.

The present volume is full of most timely and interesting things, having a very wide range. As is customery, however, there is one phase of medicine which holds the predominance of space and attention. In this instance, the leading subject is pediatrics. There is more upon this topic than any other two topics together, and it covers, by itself, a scope almost as large as the rest of the volume, ranging all the way from miliary tuberculosis to hyrospasm. For the rest, Brill has an interesting article on psychoanalysis. The sociologic side is represented by an article on human conservation, by J. Madison Taylor. But the most valuable section, to our mind, is the one on diagnosis and treatment, in which is reflected the progress of the times in a peculiarly comprehensive and illuminating fashion. We notice, by the way, that our own Dr. Alfred S. Burdick has contributed a presentation of the new phases of emetine-therapy. This feature—this reflection of current advance—is, after all, the raison-d'etre of the publication, and its most valuable function. And in the fulfilment of this function "International Clinics" occupies a place distinctively its own.

PARK AND WILLIAMS: "PATHOGENIC MICROORGANISMS"

Pathogenic Microorganisms: A Practical Manual for Students, Physicians, and Health Officers. By William H. Park, M. D., Director of Bureau of Laboratories, New York City; and Anna Williams, M. D., Assistant to the above. Fifth edition, enlarged and thoroughly revised. New York and Philadelphia: Lea & Febiger. 1914. Price $4.00.

If one wishes to realize the remarkable and rapid growth of the subject of Dr. Park's work, one only has to compare the size and content of the first edition, issued under the title of "Bacteriology in Medicine and Surgery," with that of the one now off the press. In its successive editions, the text has been broadened so as to include whatever additional knowledge and achievements had accrued, until it now represents the present state of evolution; and, while, still, its point of view has remained the same, which is, to demonstrate the relations of microorganisms to diseases of men, it has been thought wise to touch upon other aspects, such as the bacteria concerned in agriculture and some forms of fermentation.

Part I deals with general characteristics and methods. Part II includes the study of individual pathogenic organisms and their near relatives. Part III presents certain special aspects of the subject under the title of Applied Microbiology. The whole subject of immunity has been extensively revised in accordance with the latest concepts. There is a special chapter on complement-fixation, by M. P. Olmstead, and another on filtrable viruses. Altogether, this is an excellent work, by an excellent man, and we are not surprised at the statement in the preface that it "has come to be used in an ever-increasing degree by medical students."

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Queries

QUERY 6108.—"Freezing Epithelioma with Carbon Dioxide." O. B., California, writes as follows: "I have just about conquered the growth referred to in my Query No. 6059—and which I now believe to be an epithelioma—by applying carbon-dioxide ice. I procured a Gooseman apparatus, which I find quite satisfactory, and since last August have made six applications, at intervals of about three or four weeks. The growth now has been reduced from an area of 1 x 1 3-4 inches to a spot about as large as the end of a lead-pencil, and one more application, I feel sure, will entirely heal this. I have maintained free elimination with saline laxatives, and at times gave echinacea, also; but it has been difficult to induce the patient to take medicines faithfully. Still, I have succeeded beyond my expectation. I feel that it is due you to report this progress, as my experience may be of help to others."

Certainly you are to be congratulated upon your success. We, too, have used carbon-dioxide snow in several cases, with excellent results; so, we have no doubt that the small lesion which still exists will disappear under one or two further applications.

We note that you have prescribed echinacea for internal use. Should a similar case come under your care, try echinacoid, alnuoid, and irisoid, in rather full doses, and in alternation with arsenous iodide, 1-64 grain, after meals.

QUERY 6109.—"Emetine in Pyorrhea." G., Indiana, desires information regarding the method of using emetine for pyorrhea. He wants to know whether he should inject the solution directly into the tissues with a sharp-pointed needle or simply fill the pus-pockets, using a blunt needle? Must any particular care beyond antisepsis be observed in the application? Can any harm to the general system or tissues of the mouth follow its use?

Several operators have had trouble, first from the use of too strong solutions of emetine hydrochloride, and, second, from injecting such solutions into healthy tissue above and through pus-pockets.

As you can readily understand, if a needle is inserted into a pus-bearing cavity and the point pushed through the protective wall into unaffected tissue, trouble is almost sure to result. Emetine solutions do not destroy or inhibit the growth of streptococci and staphylococci, and these bacteria, introduced by the needle into infiltrated tissue, would certainly propagate rapidly. It is for this reason that we advocate the use of emetine in association with antiseptics. This solution should be of the appropriate emetine-strength; namely, one-half of one percent (0.5 : 100, or, 1 : 200).

It has been found that 1-percent solutions of emetine hydrochloride may prove decidedly irritant when injected into the gums. For this reason, we strongly deprecate the dental use of extemporaneously prepared solutions of the alkaloid. Even for hypodermic administration, the liquid of the ampule is preferable to dissolving a tablet, although, if the operator is careful and uses reliable distilled water and a surgically clean syringe, the tablets may, of course, be thus employed.

As you will readily see, then, success in treating pyorrhea depends (1) upon the avoidance of too strong solutions, and (2) the injection of a sterile 1-2-percent solution of emetine into the pus-pockets themselves—never into the adjacent healthy tissues.

Before injecting, express the contents of the pockets by gentle massage with a swab saturated with a simple antiseptic solution, then have the mouth rinsed with solution of hydrogen dioxide, 1 part, and water, 3 parts. When frothing has ceased, dry the gums carefully and inject of the emetine-solution (1-2-percent strength) into each pocket, using a blunt or probe-pointed needle. Should in-

flammatory symptoms develop, cleanse the pockets with hydrogen dioxide, use borothyme or a similar antiseptic solution freely, and finally paint the entire area with diluted tincture of iodine.

Best results are obtained when, in addition, 1-2 grain of emetine is injected into the patient's arm every day for three or four days at the same time the emetine is being used in the mouth. We strongly advise this combined treatment in all severe cases.

Not to forget: *treat the patient.* Clean out his bowels; give him intestinal antiseptic; examine the urine, and give antacids, if indicated; put the digestion in first-class trim. All these expedients help greatly.

As to emetine, it is a wonderful remedy. Truly, "the half has never been told" regarding its possibilities.

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Query 6010.—"Typhoid Fever with Complicating Phlebitis." W. E. D., Iowa, sends a sample of urine for analysis, the patient being a man 38 years of age. This man was taken with a fever that continued for almost three weeks, the doctor first attending him considering it a case of typhoid fever. The correspondent saw him the third week, when he still had some fever, and also had quite a little pain in his left leg, extending from the hip to the knee; the leg felt numb much of the time when he walked; the veins, from the knee to the ankle, were varicosed. The man recovered somewhat and for a time felt as well as usual, except that the left leg was enlarged from the ankle to the hip. The calf of the leg is now 1 1-2 inches larger around than that of the right leg, and the leg still feels numb if used much. Ten days prior to this letter, the specific gravity of the urine was 1028, acidity was high; at the date of writing, the specific gravity was 1010, acidity being slightly reduced. Six days before this, he began to have fever again, his temperature fluctuating between 101° and 103° F. At the time of this report, the temperature was 100° F., the pulse, 70; with a morning-temperature of 103° and a slight chill. There is a little edema of the right ankle, but not as much as of the left one.

The doctor asks: "What keeps up this fever and causes the leg to enlarge?"

This patient undoubtedly has typhoid fever, since the Russo test applied to the urine specimen was markedly positive. This accounts for the continued temperature. It is quite possible, also, that there is phlebitis. Besides, the possibility of a preexistent nephritis must be borne in mind, casts being present in the urine; however, a small number of hyaline and granular casts often are observed in the urine of typhoid-patients. Since albumin is absent and only a moderate amount of casts present, while the amount of urine voided is in excess of normal and the specific gravity and total urea are high, it would seem that there is no organic renal disease, and it is probable that the congestion will disappear as the patient becomes convalescent.

Pyuria is fairly common in typhoid fever, especially during the second and fourth weeks, and may persist well into convalescence. Acute cystitis may be present, though usually the pus is of renal origin.

It is a little difficult to state whether this is an initial attack of typhoid fever or a relapse. We would take it that the patient was entering the second week of the disease, basing this opinion upon the statement that "six days ago he commenced to have a fever, running from 100 to 103 degrees."

As to the affected limb, you cannot do better than elevate it, and apply compresses wrung out of a carbolated solution of epsom salt. Crédé ointment might be rubbed in with advantage. We should put the man on nuclein, and give galactenzyme in full doses. Sulphocarbolates, of course.

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Query 6011.—"The Morphine-Habit." J. A. B., Indiana, wants to know if there is not some remedy that can be taken, say, every two or three hours or in some way that will cure a morphine-addict of his habit in an easy way.

Considerable has been printed in this journal, and this department, about effectual measures for the cure of drug-addiction; so, we must be brief.

The best way to overcome morphine-addiction is, to reduce gradually the amount of the narcotic, not allowing the patient to know how much he is receiving, at the same time pushing tonics and eliminants. Where the patient uses morphine hypodermically, the amount he is accustomed to take should be reduced at once by one-half or more; meanwhile it is absolutely essential that he be kept under the constant observation of a firm, thoroughly competent and kind nurse. When the narcotic is taken internally, a solution of it should be prepared, each teaspoonful containing one-half the accustomed dose. A simple bitter (gentian, quassoid, brucine) may be added to advantage.

At the beginning of the treatment, the patient is purged thoroughly. In addition, he is given hot salt-baths or spongings at frequent intervals; also some suitable tonic every three or four hours. Any peculiar complications which may arise are controlled with appropriate remedies.

As soon as one-fourth of the weaning-solution has been used up, plain water is added to refill the bottle, and the patient receives his usual dose of this until once more one-fourth of the bottleful has been taken, when water is again added to fill up. At this time, as will be observed, the patient is receiving just one-eighth the amount of drug he was used to consume; but he probably will be unaware of that fact. As the bitterness of the solution naturally decreases with the constant dilution with water, it becomes necessary to add something bitter, otherwise the patient may imagine to be suffering because of deprivation of his opiate. Under no circumstance should he be informed, for several days, that the drug actually has been withdrawn, after his original supply of morphine has been completely exhausted and he is taking merely bitter water.

This treatment can be carried out, in ordinary cases, without the slightest trouble, and, if thorough purging is instituted and maintained from the first, there will be few or no untoward symptoms requiring particular attention.

In addition to the course outlined, the patient, throughout the treatment, should be required to take atropine, strychnine, xanthoxyloid, and cactoid, in the tablet form. Such a course gives results similar to those obtained with the mixture employed in the Lambert-Towns treatment. Further details will be supplied to any physician, on request.

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QUERY 6012.—"Hydrogen-Sulphide Poisoning." E. H., Arizona, wishes to know whether hydrogen sulphide, inhaled as fumes, is cumulative in the system. Much of this gas is being used experimentally, in mine work in his neighborhood, and the men complain of lightheadedness and pains in the limbs for several days after. Would working where a small quantity of the gas is escaping have any deleterious effect?

Sulphureted hydrogen is strongly irritant. When inhaled in concentrated form, it may prove almost immediately fatal, the victim losing consciousness at once and respiration ceasing in less than a minute. In smaller quantities, the gas may cause unconsciousness lasting for several hours, occasional fatal coma ensuing, interrupted by convulsions of, sometimes, a very violent character. These symptoms are the consequence of the direct action of the sulphide on the medulla oblongata and the brain. Individuals exposed to diluted vapor of sulphureted hydrogen complain of local irritation (ocular, nasal, pharyngeal) and more or less pain and congestion of the conjunctiva, dryness and soreness of the buccal and laryngeal mucosa, and reflex increase in the secretion of tears, saliva, and mucus. Giddiness, dulness, headache (persistent and severe), and progressive loss of energy are complained of, these symptoms very often appearing some time after exposure to the poison.

Lehmann's experiments proved that death is due in part to edema of the lungs, 1 part of hydrosulphuric acid in 5000 parts of air proving sufficient to induce serious symptoms in man, while air containing 1 part of the gas in 2000 parts of air could be respired for only a short time, invariably giving rise to alarming symptoms. He states that 1 part of sulphurous acid in 1000 parts of air is sufficient to poison an adult in a very short time.

The poisonous effect of hydrogen sulphide is owing partly to its local irritant action, and partly to the direct effect it exerts upon the central nervous system. The changes in the blood occur during life only after inhalations of concentrated gas, although they may indicate exposure to more diluted vapor, the tissues in general tending to assume a green color comparatively soon after the victim has succumbed to sulphurous-acid poisoning.

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QUERY 6013.—"Cancerous Odors." O. G. C., Indiana, would like us to say what we consider the best preparation for overcoming the disagreeable odor from cancer of the womb.

A great many agents have been recommended to suppress the odor of cancerous lesions, but few of them prove very effective. However, thorough cleansing of the parts with dilute hydrogen dioxide, followed by a douche with the vaginal antiseptic powder (a level tablespoonful) dissolved in a quart of hot water, and finally the application of gauze strips or small wool and cotton tampons saturated with a solution of thuja and echinacea will be found to do good service.

Carcinoma of the uterus proves particularly rebellious to ordinary deodorizing measures. This writer has had success with a dilute solution of formaldehyde: formalin,

standard 30-percent solution, 1 part; water, 15 to 20 parts; but even stronger solutions may be applied with a swab direct to the cancerous area. After such treatment, discharge is materially lessened and the bad odor virtually disappears for several hours. Ichthyol and iodine have been employed for this purpose, but the combined hydrogen-dioxide and thuja and echinacea applications give the most satisfactory results in the majority of cases.

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QUERY 6014.—"Uterine Prolapse." W. S. W., Georgia, has under care a childless married woman (no miscarriages) who, since about six months ago has been suffering from prolapse of the uterus in the first degree, and who claims to have lifted a heavy weight last November during her menstrual period. Since then she has had considerable pain, and scanty somewhat pale menstrual flow, when previous to this she had no trouble. There also is some leucorrhea at times. She complains of irritable bladder when menstruating. Our correspondent asks as to what is the best method to keep the uterus in place after it has been replaced, and he also wants to know whether we would suggest a tampon with astringents, and as to what we think of pessaries and what is the best kind of the latter in his case.

Each case of uterine prolapse must be studied individually, especially when it occurs suddenly in an otherwise healthy individual, as in this instance. The Doctor has failed to give the age of this patient and says nothing about her muscular condition. On general principles, however, we should advise replacement of the organ and careful tamponage; later, a rubber ring pessary may be employed. It must be borne in mind, however, that sudden prolapse really is a rare condition, especially in a nulliparous woman, unless some pelvic tumor exists, which causes displacement of the organ. When such an accident does occur, it usually is due to sudden extraordinary muscular effort or to a fall from a height; and it is quite likely that under such circumstances the uterosacral ligaments are ruptured. In chronic prolapse, the ligaments merely are elongated.

If the ligaments are ruptured, you will have to use a cup or ring pessary, with an external support. This pessary should be removed when the woman retires and whenever she resumes the recumbent position.

You will find a very complete and instructive chapter on the treatment of prolapse of the womb in Ashton's "Gynecology." In this connection, let us call your attention to the answer to Query 6104, in our June issue.

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QUERY 6015.—"Emetine in Rheumatoid Arthritis." W. H. E., Wisconsin, has a patient who is unable to walk on account of rheumatoid arthritis. He has been advised to give injections of emetine, on the assumption that pyorrhea is the underlying cause of the joint trouble. Our advice is requested.

At the present time, we are not yet able to express a positive opinion as to the likelihood of emetine proving efficacious in rheumatoid arthritis, or arthritis deformans. The opinion prevails among many able men that this form of arthritis has its root in some primary infection elsewhere in the body; and this theory is supported by such men as Billings and Rosenow, who look upon pyorrhea as one of the causes, although not the only one.

While emetine might prove destructive of any amebas present and thus do good in cases like this one, it hardly is reasonable to assume that the drug could restore normal conditions in diseased joints. Nevertheless, it is worth trying, although one should not overlook the systemic conditions playing an important part in this disease. You will find a somewhat exhaustive consideration of rheumatoid arthritis in the Query Department of the December, 1913, issue of CLINICAL MEDICINE. Should you decide to administer emetine in this particular case, we trust you will keep careful notes and report your observations, be they favorable or otherwise, for the benefit of the profession at large. Of one thing you may be quite sure, and that is, that the conjoined local and systemic use of emetine will always materially benefit and usually cure your cases of pyorrhea.

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QUERY 6016.—"Fecal Impaction." M. E. B., Michigan, writes: "A patient of mine just died from fecal impaction at the hepatic flexure. I looked through your literature and saw the advice to use a kerosene enema. I did not dare use it, as I thought it was too strong undiluted."

It is quite possible that the fatal termination might have been prevented by the free use of kerosene, as suggested; and you may rest assured, doctor, that any procedure recommended by those in charge of CLINICAL MEDICINE has been employed many times in personal practice and not only proven safe, but efficacious.

Not very long ago, the present writer was called into consultation to see a physician

supposed to be dying from cancer, either of the colon or the liver. Careful palpation led to the diagnosis of fecal impaction at the hepatic flexure. The physicians who had been in charge were skeptical, but this writer himself felt convinced that he was correct. So, after the bowel was washed out with warm soapsuds, the patient was placed in the knee-chest position and a pint of kerosene introduced through a rectal tube, followed by gentle massage of the colon, especially of the hepatic area, with the patient lying upon his right side. Then, after the lapse of fifteen minutes, 2 quarts more of soapsuds was introduced, and this brought away a large quantity of hard fecal masses; still, the main mass did not seem to be affected. Thereupon the patient was made to drink several ounces of liquid petrolatum, or paraffin-oil (note, *not* kerosene), while a second pint of kerosene was introduced into the colon, followed by more soap-water. Fifteen minutes later we were in possession of the "cancer"—a fecal mass of stony hardness, with a corkscrew channel through the center. Recovery was rapid.

Bear in mind that no harmful amount of kerosene is absorbed within a reasonable time, and you need not hesitate to introduce it under any circumstances. Of course, the kerosene should not be left in the bowel for longer than half an hour. Such dissolvent action as the oil possesses will be exerted in that time.

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QUERY 6017.—"Profuse sweating." M. C. B., Oregon, submits, for diagnosis and treatment, a case of profuse sweating. The patient is a boy of 9 years, weighs 62 pounds, is fairly well nourished, and is of nervous temperament. The Doctor writes: "As soon as the boy goes to sleep he begins to sweat profusely, so that at times it is necessary to change his night-clothes; and these attacks occur two or three times a week. This sweating came on after he had had an attack of pneumonia, when he was nine months of age and has continued, with intermission, ever since. He had chicken-pox at two years and bronchopneumonia at five. Family history is good. Result of the examination: temperature, 98.6° F.; pulse rate, 76; hemoglobin blood-content, 85 percent; heart, normal; lungs, normal, with no dulness; tonsils, enlarged; adenoids present; also a few enlarged lymphatic glands in the neck; abdominal organs, negative finding, except that the belly is distended by gases; urine, normal. He is slightly constipated, is troubled somewhat with headaches, and wears spectacles."

Idiopathic general hyperidrosis nearly always is associated with debility, and, as a rule, is an evidence of some underlying (often unrecognized) pathologic condition, such as tuberculosis, malaria or an autotoxicosis; however, in some families there obtains a tendency to excessive perspiratory secretion. The fact, in this instance, that the patient is constipated and has some ocular disorder points to a nervous origin.

It must be admitted that in a considerable proportion of cases very little can be accomplished in the moderate periodic forms of generalized sweating. In excessive periodic hyperidrosis (usually insidious in developing), the outcome depends upon recognition of the cause. Stelwagon regards the prognosis less favorable in paroxysmal sweating than in the continuous type.

The reflexes, both deep and superficial, should be tested; the von Pirquet reaction also may be tested; in addition, we suggest that you have an examination made of specimen of this boy's urine and a blood smear.

On general principles, we should be inclined to administer the arsenates of iron, quinine, and strychnine, also lecithin, and the mineral acids in rather full doses. Sulphur laxative might also be tried, adding, should the laxative action be too marked, a little gallic or tannic acid; this laxative, though, preferably in alternation with the arsenates and mineral acids—say, week and week about.

The writer has secured good results from a combination of ergot, atropine, and quinine ferrocyanide. Before the patient goes to bed, his skin should be sponged with some mildly astringent solution.

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QUERY 6018.—"Myocarditis?" W. H. R., New York, presents the case of a plumber, age 41 years, doing no hard work at present, who complains of great bodily weakness, inability to force himself to do work, either physical or mental, brain tiring easily and unable to concentrate; legs and arms go to sleep easily, especially on left side; is sleepy at all times, often directly after eating. Appetite very good, bowels regular, sleeps well at night. At beginning of treatment had pain over stomach; no pain whatever at present.

He has been a heavy beer drinker for twenty years. Liver slightly enlarged, urine

normal. Heart varies from 82 to 90 and pulse is soft and regular except after exercise. All heart sounds are weak; a slight scraping sound is heard at aortic valves, but best over transverse arch of aorta, and is not carried up into neck; no murmur over mitral orifice when at rest, after exercise a mitral regurgitant murmur is heard and pulse becomes irregular; no shortness of breath ordinarily. Blood pressure by auscultation method is systolic 93, diastolic 78, Tycos' instrument used.

Patient has stopped drinking entirely and has reduced coffee and smoking. Has been on strychnine, chologestin, iron, and arsenic, with nux vomica and cascara morning and night. For a time he took mercuric chloride and potassium iodide.

Appetite is now splendid, and bowels regular. Digitalin causes pain over heart and arch or aoria. No specific history. Blood is negative for malaria. Patient has lost twenty or more pounds since the beer was stopped and while under treatment. The blood pressure has never been higher than 108 systolic, even when on digitalis. Patient is now taking only strychnine, iron, and arsenic. Heart is hypertrophic, down some and to left.

We hesitate to venture a definite diagnosis. The fact that the patient has been a plumber for many years would lead us to think of the possibility of lead poisoning; as, moreover, he has been a somewhat heavy drinker, the probability of hepatic or renal disease and myocarditis is also strongly to be considered. A blood-study should be made, to exclude the possibility of pernicious anemia or other dyscrasia.

The heart sounds are not clear enough, apparently, to make a positive diagnosis as to the condition of the cardiac organ, and it is somewhat difficult to say whether there is anything more than mitral regurgitation to deal with. Of course, this is serious enough, if there is associated loss of compensation, but this does not seem to be the case, since no dropsy is reported. However, it is not unlikely that there is beginning degeneration, or myocarditis. On the whole, it is doubtful if the reported condition of the heart will explain the patient's extreme bodily weakness.

You say the urine is normal. What is the output of urea. Is there any indican or skatol? What is the degree of acidity?

The blood pressure is very low, but it is doubtful whether it would be desirable to try to increase it materially. You might with advantage place the patient upon cactoid, alternating every three hours with sparteine, digitalin or adrenalin. Before each meal we would give some good digestive; also berberine hydrochloride and strychnine sulphate, and an hour after dinner and supper one chionanthoid compound tablet.

Have the patient take a salt sponge-bath at least twice a week, and (in the knee-chest position) flush the bowel at similar intervals with decinormal salt solution at body temperature. Rest in bed is indicated if there is myocarditis.

We would hardly like to exclude syphilis. A Wassermann test might prove informative. The patient should, of course, be dieted carefully, and a month in the pine-woods might prove beneficial. We need more details before volunteering further suggestions.

The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use
Vol. 22. No. 8 AUGUST, 1915

Active Principles and "Nature"

IT really is too bad that the druggists of the country, whom we know to be an intelligent and well-informed class of men, should have fastened upon them such an absurdly impossible expression of opinion as that which appears in an article in *The N. A. R. D. Journal* of May 13, being the fourth in a series of articles on The Drug Store Laboratory, under the subtitle, "A Plea for the Fifty Percent Tincture." We have a too good acquaintance with retail druggists, and far higher respect for them, than to imagine for a moment that the article in question represents their attitude as a body. But it is a thousand pities that they should even appear to be sponsors for so ridiculous an argument as is presented here.

If this is the best "plea" that can be put forward in behalf of the fifty-percent tincture, we fear that the fifty-percent tincture has a slim chance of surviving. It is, in reality, of course, not a plea at all, but a pettish, spiteful attack upon active-principle pharmacy. And, like most pettish, spiteful attacks, it starts out with a statement that is one part truth and three parts lie.

"The active-principle theory of medication is based," it declares, "upon the fact that the active principle of a plant establishes its medicinal usefulness, and that all other constituents of the plant are useless."

To begin with, as we have pointed out over and over again, there is no such thing as an "active-principle theory of medication." Those who advocate the use of the active principles have no theory or system of medication different from that of applied medical science in general. It is not a matter of therapeutics at all, but of pharmacy; not of the application, but of the preparation, of drugs. Noting this correction, in passing, it may next be pointed out that the advocacy of the active principle is not based upon the fact that "the active principle of a plant establishes its medicinal usefulness," which is one thing, but that pharmacology has arbitrarily standardized many drugs upon this or that active-principle content, which is quite another thing. And last comes the lie direct, which is the most absurd assertion of all, namely, that active-principle advocacy holds that "all other constituents of the plant are useless."

Our critic works himself into a high state of excitement over the presumptuous audacity of mere man in undertaking to

put asunder what God hath joined together. "The constituents of a vegetable drug," he solmenly declares, "are given it by nature for a purpose no man has yet been able to fathom." (Pray note the delightful ingenuousness of this confession!)

"These drugs are employed [by nature, of course, not by man] to relieve sickness and disease. The chemical complexity of a plant's constituents, the relation that one of these constituents bears to the other, the necessity for all to make a harmonious whole, are a result of nature's handiwork, and it is perfect. Yet along comes man, and ruthlessly tears down this complex yet perfect handiwork, selects one constituent which *he* thinks is the most important, and in his childlike ignorance offers this *one* constituent to the physician as a remedy par excellence."

Horrible, isn't it? Like wrecking a happy home. Makes one ashamed to look a bit of strychnine in the face.

"The rational way to study this thing would be thus:" continues our accuser. "The human body is also a very complex chemical handiwork. [Here follows an eloquent characterization of the human form divine.] Yet along comes man, slices off a piece here, cuts out a piece there, and calls it a cure, whereas, in fact, a cripple has been produced, for no one with a part of his organism missing is able to perform the functions of a perfect human being." Hot shot for the surgeon, too!

We might suggest another way to look at "this thing." Here is one of these peaceful, beneficent, happy-family combinations of constituents, given to a plant by nature for a purpose which no man has yet been able to fathom, a complex but perfect piece of nature's handiwork. Along comes man, arrogantly says *he* knows what it's for, blasphemously tears apart this complex yet perfect handiwork, selects the leaf or the seed or the root, as the case may be, presumptuously discarding all the rest of the plant, mashes it up, adds alcohol to it (more blasphemy), and lo, the fifty-percent tincture!

Still another way. Here is another beautifully complex organism vulgarly known as a porker. Along comes man, ruthlessly tears down this complex but perfect handiwork, shamelessly selects the parts that *he* thinks the most edible, and in his childlike ignorance offers these to the consumer as food par excellence.

This, of course, is jumping rather suddenly from the realm of medicine into that of food. But our critic himself sets the example. "If," hs asks, "caffeine is *the* active principle of coffee, and represents the full virtues of coffee (as some manufacturers claim), why do people drink coffee? Why do they not sip a solution of caffeine?"

Ah, there he has us! By the same token, if, as some claim, alcohol is *the* active part of champaigne, why do people drink champaigne? Why do they not take fifty-percent alcohol? We confess we don't know—unless (brilliant thought!) the public possibly has an unaccountable prejudice against the *taste* of caffeine and grain alcohol and in favor of coffee and champaigne?

Honest Injun, now, isn't it all arrant nonsense? Nature didn't furnish man with his drugs for the cure of his diseases, any more than she furnishes him with steel girders for his bridges or carpets for his floors.

All that man has obtained from nature he has wrested from her by the exercise of his own observation and reason and ingenuity by this very process of "ruthlessly tearing down her complex yet perfect handiwork," which our critic finds so blasphemous, and appropriating this and that "which *he* thinks is the most important"—or useful. According to our critic's argument, we had better all go back and eat herbs and live in caves and clothe ourselves in skins.

The active-principle position has been stated, and restated, and (as Kipling would say) "tre"-stated, until it really is superfluous to state it any more. It negates nothing, belittles nothing—not even the virtues of the whole drug, *in their place.* It simply takes sensible cognizance of the unquestionable virtues of the single principle, its growing field of therapeutic usefulness, its vast superiority over the crude drug, wherever it can be used, in accuracy, definiteness, and convenience, and the manifest advantage, wherever the active principle is indicated, of separating it from those other constituents of the plant "given it by nature for a purpose no man has yet been able to fathom."

What do *you* think about it, Doctor?

THE WAR AGAINST BOOZE

"The liquor cranks are excited," remarks *Collier's Weekly*, "because the antibooze agitation threatens 'properties valued in the aggregate at perhaps $2,000,000,000.' It may comfort them to reflect that this 'perhaps' total of theirs is almost exactly one-ninety-fourth of the estimated wealth of the United States. But it causes an altogether disproportionate part of the total crime, disease, suffering, and waste with which our

country is afflicted. The rest of us pay mighty heavy taxes in all these ways to keep up their 'values.' Booze wealth is the most selfish, tyrannous, and wooden-headed form of property known to our civilization, and it ought to be possible to scale its fraction down (and out) with perfect safety and great gain. Why should a minor interest be a major nuisance?"

When a great popular magazine like *Collier's*, which depends for its existence upon the approval of "all sorts and conditions of men," comes out boldly on the side of the "antibooze agitators" it means that the nation is becoming morally awake at last. The booze colossus is fighting for its life, as witness the futile effort to secure the passage, by the late Illinois legislature, of a bill to reimburse the liquor interests for the properties destroyed by local option in this state—also, the feverish (and humorous) activity of the booze literary bureaus, now spending millions to prove that "prohibition does not prohibit"!

Does not life go down with a better grace, foaming in full body over a precipice, than miserably struggling to an end in sandy deltas?—Robert Louis Stevenson.

A NEW SERIES BY DOCTOR ROBINSON

We have just arranged with Doctor W. J. Robinson, for publication in CLINICAL MEDICINE, of a series of articles upon "The Diseases and Disorders of the Prostate Gland, and Their Nonsurgical Treatment." The first instalment will appear probably in our November issue, and they will run continuously, as a special feature, for six months, and possibly longer. The articles will be fully illustrated, and will contain "the last word" on the subject of prostatic disease. They will be of special interest and value to the general practitioner, because they emphasize the nonsurgical treatment, while the average textbook discussion is written solely from the standpoint of the surgeon.

This is one of the most interesting series we have been able to announce for many months. It represents the first phase of our program for 1915–1916, further details of which will be announced in forthcoming issues.

CLINICAL MEDICINE keeps on growing. We are constantly striving to make it better—because more helpful. Suggestions from our readers always are appreciated, and we are particularly anxious to learn just what they want. Let every member of the "family" make it his special business to offer his suggestions, and, best of all, something of personal, practical, clinical help that will look well in print.

It's up to you!

BUILDING AS RELIGIOUS EXPRESSION

Accustomed, as we are, to revere the traditions of the Old World, the destruction of Europe's ancient fanes comes to us with a shock that probably is much greater than that felt by the inhabitants of the stricken communities. We Americans look with reverent awe upon the glories of St. Mark's. We appreciate the religious fervor expressed in its construction. To us, every statue, buttress, tower, minaret, and spire tell the same story they did to the builders. From the dead centuries, these structures speak to us of the devotion of the men who battled for the Cross and held back the Crescent. But the descendants of the Iscari sprawl on the marble pavement and "clash their bruised centesimi" in the Venetian version of crap-shooting, regardless of the venerable temple rearing its storied walls about them.

The same devotional sentiment exists in the hearts of the men of today—but, what a different form its expression assumes! We read that Columbia College and the affiliated Presbyterian Hospital are joining in an expenditure of $7,500,000 on buildings. These include an administration building, one to house the medical sciences, the Crocker Cancer Research Laboratories, a school of sanitary science and public health, a hospital, the Vanderbilt Clinic, including the outpatient department, dormitories for 400 students, with dining-hall, a training-school and home for nurses, with provision for the Sloane Hospital and other institutions that may unite with the associated group.

Modern Christianity is not dead. It never was more vital. It simply has shaken off medieval traditions and scholastic dust and set itself to study modern needs and adapting itself to existing conditions. It drops the discussion of tenets, the delimitations of creeds; it abstains from mucking among the dry bones of a dead past and reasserts its place in the present. Again it becomes the potent force in checking the grasping, selfish principle, and is developing the altruistic sentiment that has been the living, vital force in every religion that has won the hearts of men. To educate the ignorant, to enlighten the blind, to protect the weak and raise the down-and-out, to modify greed by love for humanity, to restrain the rule of force by

that of mercy and justice are the purposes of the Church of today.

These, followed intelligently, will bring the world again under the Cross, or, rather, into that wider faith that embraces every faith, and which teaches, as its fundamental principle, the Rule of Love.

"Where there is no vision the people perish." Then spake the wise old clock-maker. "A vision," quoth he, "is something good and lofty and desirable which the soul may see, and having not may reach forth to obtain. Without a vision the body may live, but the soul is starved. It is life in death."

"Where shall I seek?" asked Anton. "At thine own work-bench," was the answer. "Do thy daily work, Anton, and let thy vision find thee working. Then shalt thou be ready to receive it, and the meaning of thy life and work will be made clear to thee."

—Walter A. Dyer.

KOCH'S THEORY OF SEASICKNESS, AND CORRESPONDING TREATMENT

The subject of seasickness was discussed in these pages quite exhaustively only last summer; nevertheless, in view of the still controversial state of the problem, any contribution promising to throw more light upon the etiology as well as rational treatment of this troublesome affection should prove welcome; the more so, as ocean-travel is fast increasing among all classes of society, among whom medical men themselves constitute not a small contingent.

With the rapid growth and spread of relative wealth among the masses and ever more individuals finding their economic situation comfortable, we see an extension of international congresses and other gatherings on a large scale, and journeys to overseas lands for mere pleasure, in the quest of health, or with a view to broadening education; but, this draws numberless persons peculiarly susceptible to attacks of naupathia, because their mode of life and, largely, their sex has made of them more or less of vagotonics.

Prominent in this category of sporadic travelers are the thousands of well-to-do women, those exhausting their vitality in industrial life, and, not least, the numerous members of the teaching profession. And it is these very individuals, the more refined and sensitive subjects, who suffer most acutely and call for sympathy, many of them even being deterred from undertaking these wholesome and socially useful journeys by their dread of the exhausting ordeal.

One of the favorite notions about the causation of the symptom-complex grouped as "seasickness" and "carsickness," or, technically, as naupathia, is, that a disturbance, with consequent irritation, of the vestibular apparatus of the ear, and undue commotion of the contents of the semicircular canal—the organ of equilibration—gives rise to a connected series of reflex phenomena.

More recently, Bruns has sought to establish this theory through laboratory experiments (*Med. Klin.*, 1914, No. 26), by whirling the subjects around upon a rotating seat and observing the physiologic effects produced. As one result, Bruns attacked as utterly untenable and undemonstrable the supposition, promulgated by Sanitary Councilor Franz Koch, of Bad Reichenhall, to the effect that one of the principal factors is, the mechanical disturbance of the abdominal viscera.

In a communication to the *Therapeu'ische Monatshefte* for October last, Doctor Koch essays to answer Bruns' objections, at the same time rehearsing his own theory, and his treatment based thereon; stating in his introduction that his interest in this problem was aroused when in 1891, on a small ship, he passed through a furious five-day storm on the North Sea. Subsequently he published the result of his cogitations and experience in the lay press (e. g., *Augsburg Abendztg.*, 1905); but his expositions failed to attract the attention of the medical profession.

In view of more recent agitation of this subject, Koch feels justified in resurrecting from its paper tomb his previous contention; freely admitting at once that, of course, the equilibration-organ must not be excluded from the calculation. And this is his position:

As the ship rolls and performs tortuous movements to and fro and up and down, the rigid body of the passenger follows these undulations; on the other hand, his loosely attached organs, that is, the intestine and stomach, and other organs of the abdomen (but also in less degree the heart and brain—the lungs being firmly encased) naturally will lag somewhat behind in these pendulations, and, so, at rapid invervals will come into forcible contact with the abdominal wall and the epigastrium as the two latter suddenly assume their return movement. Furthermore, this inertia of the movable organs, in the face of the rapidly changing proper motions of the body, needs gives rise to a stretching and wrenching of the tissues with their innervation, which in turn produces an unwonted irritation of (more particularly) the abdominal vagus nerve. The well-known

naupathic symptoms are the consequence: nausea, sialorrhea, pallor, chilliness, vomiting, and at times diarrhea.

That irritation of the vestibular apparatus may, and does, constitute an important factor in producing this clinical picture is not denied by Koch; for, the vertigo as a frequent concomitant feature directly points to involvement of the semicircular canal—which controls the sense of equilibrium—and, so, greatly disturbed under the circumstances.

To the foregoing must be added a similar direct irritation of the cortex of the cerebrum, and possibly also, as suggested by the headache, of the meningeal coats; this superexcitation soon resulting in a sort of paralysis of the cortex, which condition finds expression in the complete apathy and listlessness of the subject. Further, the author agrees with Bruns as to the important influence exerted by the sense impressions from without, more particularly visual ones, everything round about being in motion, the water, masts, objects on the ship, the pendulating human beings; but also the various disagreeable ship's odors may contribute. The entire *milieu*, in fact, is calculated to convey unwonted visual, and auditory, and olfactory impressions; however, we need not follow the author in his detailed enumeration.

One must likewise consider the purely psychic processes capable of originating some of the naupathic symptoms; for example, fear (diarrhea) or the sight of a seasick person (psychic "contagion"). All these various phenomena can be seen duplicated on firm land when one is in the swing or a lift, as well as during earthquakes, or, perhaps, when watching a ropewalker. Always presupposing, of course, that the subject is a vagotonic, according to Fischer's notion.

THE MANAGEMENT OF SEASICKNESS

Dr. Franz Koch (loc. cit.) feels tempted to distinguish two types of naupathia, an abdominal—the more common one—and a cranial; which, of course, more often perhaps than not occur in association, although with one of the types dominating. At the same time it may be pointed out how certain of the leading phenomena, notably the headache and the tendency to vomit, may result from an irritation either of the semicircular canals, of the cerebral cortex or of the abdominal vagus nerve. It is the latter form which is particularly amenable to therapeutic measures. But here again, in the support of his own position, Koch emphasizes the fact that never can Bruns' revolving seat imitate the ship's condition implicating the sympathetic nerve-system of the bowels; nor can it produce the sensations when, in an elevator, one drops some 2000 feet in the space of three minutes, and he is impelled to draw the abdomen spasmodically and press it hard with both hands, in order to mitigate the sudden pressure (through the aforesaid lagging) of the intestines against the diaphragm, to avert an acute attack of "seasickness." This is as true as that a mechanical "horse" of the institute never can supplant the ride in the open on a flesh-and-blood horse.

From the foregoing premises, the symptomatic as well as preventive treatment follows logically, and, in principle, is simple. As Doctor Koch on many trips on the turbulent North Sea has had occasion to observe, the irritable condition of the vagus nerve can be allayed or at least measurably reduced by mere compression of the abdomen. All one need do is, to draw up the legs, embrace them with the arms and then press them hard against the belly. In this manner one always can, at any rate, prevent throwing-up. As a result of these observations, Koch had constructed for him a girdle, or bellyband, which he now always wears on his numerous sailboat excursions.

This corsetlike girdle consists of stout sailcloth, exproximately 20 cm. broad in front and 12 cm. in the back. By means of straps and buckles, it is drawn firmly around the abdomen. This prevents the tossing of the abdomen-contents. Another help is, the well-known expedient of lying prone on the back; to which he adds the injunction that the head be slightly elevated and fixed between firm pillows, even steadying the entire body similarly. Of course, a centrally located cabin is an advantage. Whenever practicable, the patient should have his cot on the open deck, to breathe the fresh air and evade the nauseating odors of the ship; however, he should keep his eyes shut or covered, so as to exclude the sight of the dancing waves and masts. Assuring words from the doctor are aids, of course. That large vessels are preferable to small ones needs no emphasis.

Besides the casual recommendation, that the patient partake of a little biscuit or cakes, with a trifle of red-wine, the foregoing extremely simple measures, the author avers, generally suffice to control or at least minimize attacks of seasickness until habituation, as he repeatedly has demonstrated in his own person as well as in others during severe protracted storms; the period of habituation

depending upon a person's nervous organization and laxness of the mesenteric suspension. While his method has been popularly practiced more or less for a long time, still, the author commends it for verification by physicians with nautical experiences, no matter how slight.

Strangely enough, Doctor Koch winds up by expressing doubt about the possibility of a direct cure of seasickness, and, so, mentions no medicinal therapy. He may, possibly, attach a special meaning to the term "cure"; however, readers of CLINICAL MEDICINE are aware of certain courses known to give great relief or even affecting a cure for the trip, the leading indicated remedy being atropine. In this connection, we refer to the articles on this subject printed in last year's volume, on pages 429 and 759 (May and September issues), discussing Fischer's vagotonia theory and the management of seasickness.

If you are a poet or a preacher, a duke or a doctor, or just a plain, everyday family man or housewife, you have opportunity enough to glorify the day's work by adding unto it a vision. Then you will try to do good instead of merely maintaining a pastorate; you will deliver a message to the world instead of merely acquiring poetic laurels; you will save lives instead of merely building up a practice; you will make a home happier instead of merely paying off a mortgage. This is what I mean by working with and living by a vision. Thus only may you grow and enrich your life and that of many about you. "Where there is no vision, the people perish."—Walter A. Dyer.

PROSPERITY—LET US MAKE IT OUR OWN

Europe is insane. Teutonia declares she makes war to render her neighbors incapable of ever again attacking her. If that does not mean conquest and dominion, what does it mean? The Allies say, they will fight until the menace of German militarism has been destroyed. Ditto, ditto. Well, the only thing possible is for them to fight it out.

Neither is overparticular to keep some of the blows from falling upon us; and we are vulnerable, in that the American globe-trotters pervade the world, hiking through highways and byways on business or on pleasure bent, so that one scarcely can find a spot where he does not run against a countryman. Then, Young America, being naturally peaceful, dearly loves a scrap; and, as we all like to brag about our ancestors, we see Billy Williams in an English aeroplane taking pot-shots at Gus Meyer driving a German automobile, notwithstanding they were chums at high school.

The wealth of Europe is liquidating into war-material by the billion. A half-century of peace—comparative—has crowded Europe's area with men and her storehouses with goods. Billions of non-European securities stuff her strong-boxes. Now she is having a potlatch, and in the wild orgy all these accumulations of treasures and of men are being dissipated.

Europe is insane, indeed.

And America watchfully waits.

Our doors open wide for the welcoming reception of all who chance to escape from the maelstrom. Our chicks who won't be gathered under our wings must take their whacks. Our bounteous harvests go to feed the warriors and the victims of the war. Our factories ring with the din of supplying the needs of war and of peace; for, all the multitude of products needed by the men now fighting we are called to supply. Our surplus of horses, food-animals, the wheat of the Northwest are in urgent demand. If the miners of Wales face the foe in Belgium, Pennsylvania can supply the coal. Even though the fair vineyards of France are trampled under the feet of struggling millions, the wines of California find their chance of introduction to the palate of the epicure. In every department of human industry, Europe's workers have dropped their tools, to take up the sword, and America is called upon to do their work. Floods of Europe's money and securities are pouring in to pay us.

It is our opportunity.

Every American dollar should be made productive. Rush up new factories. Secure every available workman. Make every acre produce every bushel that can be gotten out of the soil. Get out every pound of metal our mines can yield. Let the fields of our industry show the same intense activity as Europe's battle-fields. Don't worry about overproduction. Every pound of cotton stored in the South is needed abroad; but it should go there in yarns, in cloths, in clothes, ready for use.

Don't say or think we seek profit from Europe's misfortunes. We are alleviating the miseries of war; supplying the necessities their workers fail to provide. We are making ready to care for the broken millions who will swarm to our shores when the war ends. Possibly we may have to face a nation that has won the hegomony of Europe and sees none but us standing between it and the domination of the world. Science will bridge our 3000-mile moat; the Atlantic will not always relieve us of the duty of bearing arms. Our century of secure isolation is at an end.

The trade of three continents invites us. Europe has no time to attend to Asia, Africa, and South America, other than to draw supplies from them. We must meet their needs, ourselves. Trade requires traders, goods, and ships. Let us supply them. When the fighters are exhausted, they will seek to regain this trade, but some of it will remain in our hands—how much, will depend upon ourselves.

Every bit of brain-power, every fiber of muscle, every acre, every dollar finds seed for employment now. And such prosperity shall follow as the world has never known.

Who helps to keep all ills away?
The doctor.
Who waits the longest for his pay?
The doctor.
Who knows you from your very birth,
And keeps you hanging round this earth,
However little you are worth?
The doctor.

THE DOSE OF CALOMEL

What's the dose of calomel? Suppose that query is popped at a candidate by some astute state board examiner—the boy could scarcely make a wrong answer or one that he could not fortify with authority. The tablet-makers list doses as low as 1-100 grain; yet, a Tennessee friend tells us that to children with fits he administers a tablespoonful of calomel every fifteen minutes!

The question might be amplified by shortening it to: What's a dose? The correct answer sould be, "As much as may be necessary to produce the desired effect." Taken in this sense, the candidate might return the Yankee retort, "For what purpose?"

We have had no personal experience with the 1-100-grain doses; but, to stop vomiting and allay nausea, I have given 1-20 grain every five minutes, with satisfactory results. Then there is a certain combination of 1-10 grain calomel with a trace of aromatics, in a tablet that surely has brought peace to armies of children with disturbed digestion. So many occasions arise in the work of the family physician for the use of these little "pink pills," that they come to be very familiar standbys with him and his little friends. We don't believe in calomel-doctors, any more than we do in whisky-doctors, quinine-doctors, opium-doctors or any other rutty, one-idea routinists; but, of the lot, we'd take chances with the one who props open the sluice-gates and lets the meanness out.

One of the unavoidable routines is that of emptying the bowels; and to the man who has realized that this means something more than the careless suggestion to "take a physic" the use of calomel is a matter of course.

The oldtime rule was, "ten-ten"—10 grains each of calomel and of jalap. Wunderlich determined that from 10 to 20 grains of calomel, administered early, favorably influenced the course of a typhoid fever. A note in *The Medical Summary* disclaims aught but such doses for adults, and 2 to 3 grains for children. Many doctors habitually premise treatment with 1-6 grain each of calomel and podophyllin, repeated half-hourly for six doses and followed by a saline laxative.

Studying the reports from all these classes, we see that they all "get there" and accomplish their object. The saline chaser is essential, no matter how large the primary dose of calomel. Results from the repeated 1-10- to 1-6-grain dose have been so satisfactory that those who try it generally adopt that method. Why use more than is really needed? The little doses are easy to take and certainly appear to loosen the material subsequently swept out by the saline. Some of us think we go a step farther, and omit half a centigram of bellyache when we give 1-12 grain of podophyllotoxin with 1-6 grain of calomel. But each one of us may remark to himself—"*My* way is best for me."

INTESTINAL MALADIES

No system of managing infants is foolproof. The most elaborate rules, the most perfected methods are useless when their application is left to careless or ignorant persons. This writer once attended a baby who had summer complaint. He laid down the law as to the care and the preparation of the child's food; two days later the babe died of cholera infantum. A few hours before its death, the doctor was looking the sick child over, when the nurse raised its head and began to give it milk out of a teacup. The milk would not run—it had soured into a mass.

Municipal supervision of the dairies, dealers, distributors, and the milk itself saves many a life by making people do what they ought to do without compulsion. Municipal sanitation removes the filth, the nidus in which disease-germs generate, and it lessens the dangers of city life in summer; but such measures can not supply the vital principle that the child gets from life in the country: the benefits accruing from two months'

strenuous rest in the open carry the individual through the remainder of the year.

But, we cannot all get the summer's freedom, and, so, it behooves us to reduce the baneful influence of the dog-days in town as much as possible.

Swat the fly, cover, burn or kerosene its fecal breeding-places. Dry or kerosene the mosquitoes' incubators. Rid the premises of germ-carrying insects of every sort.

Select sound, clean food, and pay for purity. Don't be misled by guarantees. The canned milks bear the factory guarantee of being pure and sterilized. One brand is "guaranteed" under the Pure Food and Drugs Act to consist of pure milk and nothing else. The labels on the others tell no lie, but they say nothing about the admixture of corn-starch and other material. Jellies consisting mainly of apple are not unwholesome or fraudulent, if you are willing to allow for the additions in view of the lower price made possible by such mixture. The new regulation promulgated by the Health Commissioner of Chicago, with the aid of the dealers, provides for the protection of exposed foods, and other edibles not usually washed, and, with that, a great source of danger has been removed. Do you ever think of the things to be found in street-dust, and how much of this windblown dirt clings to such foods displayed on stands and before groceries? Yes, it is well to wash carefully all plant-foods when they are to be eaten uncooked.

Be sparing of meats, yet, not wholly vegetarian. Keep the beans for winter; milk, eggs, fresh fruits, vegetables, and cereals give enough nourishment without overloading the system. You cannot give adult or child too much of the citrus fruits—oranges, grapefruits, lemon-juice.

Here is the most important rule of all—watch the stools carefully, and, at the first sign of looseness, paleness, fetor, undigested food or other abnormality, flush the alimentary canal with a mild saline laxative and administer a few doses of a harmless antiseptic. The sulphocarbolates are safe, effective, and easily taken. Sometimes the child escapes surveillance and gorges with forbidden food—then, where is there a remedy to equal ipecac? Give a little emetoid in warm water, and the whole alimentary tract returns to its duties. Would that the virtues of rhubarb could be put into such shape that hypodermic administration were possible!

Keep the bathtub full, also encumber the children with clothing as little as possible. Why be too hot, when the tub is handy and the lake inexhaustible? Give them a chance, and children soon become amphibious.

Backward, turn backward, O Time, in thy flight,
Make me a graduating M. D. tonight.

Let me retail all the knowledge gathered during the years, but give me the strength and freshness of youth and the possibilities opening up to it. How I would clean up the house, vicinity, and bowels; how sedulously I would watch for the earlier symptoms of coming disease, how carefully I would instruct the parents. My proudest boasting should be of an organ saved, not deftly abstracted; of the health continued, not disease cured; of normal mental and physical development, not pathologic processes detected.

Since "the sunset of life gives us magical love," why can't we transmit it to these young men just starting!

Close the covers and turn the key
(We're off to the woods tonight!)
Laden the table and desk may be,
(We're off to the woods tonight!)
But time for changing the lure of books
For the forest green and the woodland nooks,
The babble of print for the babbling brooks—
(We're off to the woods tonight!)

THE SULPHIDES IN TUBERCULOSIS

A few years ago *The Medical Record* published a very remarkable paper. It was from the pen of Doctor Ussher, a medical missionary, and described the results of his treatment of typhus, variola, and scarlatina by the use of calx sulphurata (U. S. P.). The results were astounding, so much so as to be beyond belief to many readers unfamiliar with the drug and the literature upon it already extant. Yet, the quiet, temperate tone of the paper, the evident sincerity of the writer, and his simple, unaffected piety disarmed criticism, so that but little appeared in the medical journals in the way of adverse comment.

Now we have another report on calx sulphurata, from another medical missionary. And here let us say that no class of men have done more to advance the honor of America and of American science among the people of other lands than have the medical missionaries. Those devoted men and women have demonstrated in every quarter of the non-christian world that the new world is ready to repay the debt it owes the races from whom its civilization originally sprang. We now return our talent with usury.

Doctor Henderson (*Med. Record*, June 12, 1910) heads his report: "A Rational and Successful Treatment for Pulmonary Tuberculosis." He adverts to Prof. W. H. Thomson's assertion, that it was the combination of the tubercle-bacillus with pyogenic bacteria that made it so deadly. If taken alone, the forces of the body had a fair chance of overcoming the former enemy.

Since Ussher's article appeared, Doctor Henderson has had experience confirming the view that calx sulphurata possesses the power of controlling pus formation. He tells of three cases of pulmonary tuberculosis and one of pulmonary abscess treated with calx sulphurata, 6 grains daily, and codliver-oil and creosote being used as adjuncts. The benefits were too marked to be accounted for by chance or by psychologic influences.

Doctor Henderson does not offer his remedy as in any sense antagonizing the tubercle-bacillus, but merely as cutting off its most dangerous auxiliary. Hence, the use of remedies directed against the tuberculous invasion, such as creosote, and against the emaciation, such as codliver-oil. That no such rapid benefits follow the use of these without the sulphide is well known.

The doses named were continued indefinitely, with "absolutely no effect." With excellent judgment also, after preparing his paper for publication, he kept it back for eight months before forwarding it to the journal.

More details will be found elsewhere in this issue.

No possible good can come from telling your remedies to your patients, nor do the laity receive any benefit from talking over the remedies in their back yards.

—Dr. J. B. Woodhull.

FINE CONSTRUCTIVE HEALTH-WORK

We have just learned from our friend Dr. Oliver J. Miller, of Sanford, Florida, that the legislature of his state passed an act providing for thorough medical examination of all school-children of that state, including those of the rural schools, such examination to be made under the direction of the state board of health. The law also provides for a sanitary survey of all school-buildings and their surroundings.

This bill was written by Doctor Miller himself and was introduced into the house of representatives by Hon. Forest Lake, Sanford, and handled in the senate by Senator Arthur E. Donegan, Kissimmee. Its passage was due mainly to the efforts of these three men; they not only got the bill introduced in the legislature, but brought it to the attention of prominent educators and sanitarians, largely by correspondence. It is a great triumph won, for which Doctor Miller and his colleagues deserve much commendation.

Unfortunately, it has been found extremely difficult in most cases to secure the passage of legislation of this kind, which nearly always is opposed by the antivivisectionists, antivaccinationists, the Christian Scientists, and the drugless healers of every description. These people, in their ignorance and prejudice, have succeeded in blocking the wheels of progress, and in so doing they are responsible for the sacrifice of thousands of lives. It is high time that the State took a more active interest in the health of its children; it certainly is not exceeding its authority in so doing. No one thinks of opposing the enforcement of laws dealing with the sanitation of slaughter-houses, barns, and stables. Why, then, should anyone oppose the demand that the State safeguard its children by a proper regulation of school-life?

MEDICAL-PRACTICE LEGISLATION—IS IT FAIR?

No one has a livelier regard for the principle of medical liberty than we; nor, we think, has anyone been more frank and outspoken in defense of that principle. Indeed, our frankness has not infrequently drawn upon us the criticism of our readers and of our contemporaries in the field of medical journalism. Hence, it may well be imagined that, while we represent the side of the medical profession in all matters of dispute between it and the public, yet we have a good deal of sympathy with the public standpoint, especially where questions involving liberty of thought and action are at issue.

For example, we have frequently expressed our opinion that the prevailing system of state medical licensure is neither the wisest nor the best method of regulating the practice of medicine. But it does not, therefore, follow that we can swallow all the specious sophistry that finds utterance in the protests of the various healing cults and their followers against the legislation which provides for such regulation. We beg to point out to these enthusiasts in the cause of socalled medical freedom that their arguments, as generally presented (and they are about the same wherever one meets them), contain some fundamentally erroneous premises which

vitiate the conclusions ordinarily drawn from them.

We are asked, for example, to consider the injustice of a legislative enactment which compels a free-born American citizen to seek the medical service of a certain class of medical practitioners, under penalty of fine or imprisonment. So far as we are aware, there is no law on the statute book that compels any such thing. So far as we are acquainted with the medical-practice acts of the country, they refer not at all to the person seeking medical service, but altogether to the individual who offers and renders the service. We are perfectly aware that the rejoinder to such a statement will be that one condition amounts to the other. If none but "regular" practitioners are permitted to practice, then the public is, *de facto*, compelled to engage the services of a "regular" practitioner or go without.

Perfectly true, if that were, indeed, the case. But the fact is, no medical practice act has anything whatever to say about the system or school of medicine which its licensees shall practice. Its provisions relate wholly to qualification and preparation—to *fitness* for practice. Having fulfilled these stipulations as to preparation and fitness, there is nothing in a medical-practice act to hinder a physician from practicing any sort of system he chooses. To be sure, there is always the possibility of his having to justify his practice in a court of law, but that is a contingency which pertains under the common law, not under a medical-practice act, to every practitioner, not to any particular school of medicine.

It is surely very unreasonable on the part of our health-cult friends to object to a legislative requirement that the practitioner of an art pertaining to the human body be thoroughly educated in all that belongs to the structure and conditions of that body, in health and disease, whatever system of therapy he may purpose applying to the latter. It is surely splitting hairs to repudiate all the rest of the curriculum of a medical education for the sake of this one branch. Every applied science has these elastic phases. An engineer is permitted individual freedom in these elective matters after he has demonstrated his general knowledge of the construction and care of engines. And this is all the state requires of the physician. There is nothing to interfere with liberty of individual creed and practice.

The test of the matter, after all, is in the results. By their fruits ye shall know them. What has been done by the "regular" school of medicine, against which the appeal to medical freedom is so vociferously invoked? And what are the achievements of the various cults and isms which would supplant the medical profession? One cannot help recalling the dignified and convincing rejoinder of the late William James to this same specious whining about individual freedom in matters of applied science:

"When one turns to the magnificent edifice of the physical sciences, and sees how it was reared; what thousands of disinterested moral lives of men lie buried in its mere foundations; what patience and postponement, what choking down of preference, what submission to the icy laws of outer fact are wrought into its very stones and mortar; how absolutely impersonal it stands in its vast augustness—then how besotted and contemptible seems every little sentimentalist who comes pretending to decide things out of his private dream."

If our irregular friends would evince a little more disposition to vie with the regular medical man in his painstaking study of the *essentials* of his calling, their "conscientious" differences of *opinion*, in the matter of treatment, would command more sincere and serious attention.

O summer day beside the joyous sea!
O summer day so wonderful and white,
So full of gladness and so full of pain!
Forever and forever shalt thou be
To some the gravestone of a dead delight!
To some the landmark of a new domain.

—Henry W. Longfellow.

THE MODERN PHYSICIAN

Modern sanitary science has notably prolonged the average of human life. However, this result has been attained by favoring one extremity at the expense of the other; for, while the average life of infancy and early childhood has been lengthened greatly, fewer individuals live to the high age of former times, the mortality between the ages of forty and sixty having actually increased. The fact that relatively more people die soon after arriving at forty, and proportionately fewer live to the age of seventy and eighty, probably is to be attributed in large part to the constantly increasing strain upon the nervous system, caused by the growing intensity of the struggle for existence, for preeminence, for wealth, as also to the rapidly growing craving for luxuries and excitement. The human mind is adopting new methods and habits, forming new

ideals. We are living swifter, harder, more strenuously than ever before. Strenuosity is the ideal, and its great apostle the idol of the active world of today, of the men of affairs, the movers, the people who do things.

Who cares nowadays for the Gauls or the Carthagenians? Who bothers over the works of Cicero? Marconi and d'Annunzio come to our thoughts when Italy is mentioned, and Greece speaks to us of a Constantine now living and acting. Who meditates now? Who thinks? Who reads, studies, contemplates, makes researches into the past, cultivates literature, art, archeology? Who cares a doit how many angels can dance upon the point of a needle? Today, now, here, we ourselves are the topics that command our attention, engross our thoughts. We are in the whirl and turmoil of a mighty flood, pulling and tossing in all directions, bumping up against the wreckage of men and things, demanding the instant and incessant output of every atom of power at our command to keep our heads above water. Perchance we may grab and bring together enough of the floating debris to form a raft capable of supporting us if we can hold it against the snatching hands of other strugglers. If by chance we are swept out of the current into a quiet eddy—behold, we are a back number, forgotten, the active world of men knows us not.

Under the laws governing evolution, it should take a century at the very least to develop the human brain and body so that it may withstand the increasing strain of a lustrum. The man unconsciously seeks to meet the changing conditions by utilizing the resources at his command—he hastily swallows the foods most readily converted into force. He leaves the conversion of vegetables into animal tissue to the ox and the hog, and takes into his stomach the concentrated quickly assimilable flesh. He hasn't time even for this, and, so, sustains his waning energy with strong coffee, tea or alcohol. He quiets nature's protests by means of tobacco and opium.

The results of all this unnatural living are before the physician in the form of the worn-out, exhausted, deranged brains, kidneys, livers, hearts in multiplying numbers; and the problems these pathologic conditions present are based upon the ways of modern life. We are conducting junk-yards filled with the wrecks of decaying humanity.

However, we physicians are part and parcel of the race, are subject to the same influences, living the same life. We have deserted the quiet, thoughtful way and taken up the swifter methods of the present. And what has it led us to? Just this: For every smallest possibility of its application, we present as our remedy—what? The knife! Our invariable prescription reads, in slang phrase, "Cut her out." And whenever we have devised a new operation, we seek justification for applying it, instead of studying a given situation and thinking out a remedy to meet it, as we should. The curious thing about it all is, that this procedure is directly the opposite of the course plainly indicated.

However, the man of affairs, the strenuous one, can not afford to take time to have his appendix removed, his thyroid gland enucleated, his intestinal kinks straightened, his kidneys decapsulated, his floating viscera anchored; he can not afford to be ill or to be away from his work a single day. Unmistakably his need is, to be kept well and in the best possible condition for work. He needs a thoroughly competent physician, a diagnostician, a sanitarian, a man so versed in human physiology that he can detect the earliest deflections from normal functioning of the body, recognize the fault in the smooth working of the machinery, ferret out the cause, then proceed to remove it and to restore physiologic equilibrium. He must give the man that study and care, that hygienic regulation that the man cannot give himself, but, yet must have in order to hold his working-powers at the highest point compatible with continued life and health.

A few multimillionaires have adopted this system. We read of Rockefeller playing golf with his house-physician, of another rich man tramping the Rockies with his doctor, and of many other instances where physicians are employed to guard the health and preserve the strength of men of affairs. The constant companion of our president, the one man who is with him continually, and in whom he confides, is an army surgeon, Doctor Grayson. There is no reason why every family should not be thus cared for and protected, and when society adjusts itself to the demands of the future, "after the war," we shall see—if we live long enough—something of this kind.

Every doctor may become a competent, qualified sanitarian, and we have almost enough properly to care for all the people. What a proud boast it will be for the doctor who can say: "I have not had a case of illness in my clientele during the past year; not a day has been lost from work by disease; not a call for my services has been made except because of accidental injury."

PHOTO BY INTERNATIONAL NEWS SERVICE

SIR THOMAS LIPTON, ON BOARD HIS YACHT ERIN, WHICH IS NOW USED IN RED-CROSS WORK. THE LADIES ARE MISS CALDWELL AND MISS HUNT, PROMINENT IN RED-CROSS WORK.

Pictures Which Will Interest Physicians

SIR THOMAS LIPTON has taken a very active part in the relief work in Serbia. He turned his yacht, the Erin, over to the Red Cross, and has devoted his personal efforts to this humane cause. He speaks in highest praise of the American Serbian relief expedition, under the direction of Doctor Richard P. Strong of the Harvard Medical School. As a result of the efforts of this group of courageous young American physicians and nurses (a number of whom have lost their lives) the typhus epidemic is said to be nearly under control.

Another American who is helping solve the typhus problem is Dr. Harry Plotz, of the Mt. Sinai (New York) Hospital staff, who has isolated the bacillus typhi exanthematici, the cause of this disease. Doctor Baehr and Doctor Olitsky collaborated with him in this work, and a full report of their

PHOTO BY INTERNATIONAL NEWS SERVICE

DR. HARRY PLOTZ, DISCOVERER OF THE TYPHUS GERM, AND HIS CO-WORKERS, DR. GEORGE BAEHR AND DR. PETER K. OLITSKY. DOCTOR PLOTZ STANDS AT OUR RIGHT, DOCTOR OLITSKY IN THE CENTER.

investigations is published in the July number of *The Journal of Infectious Diseases*. The picture shown above was taken on the S. S. Themistocles, when Plotz and Baehr sailed for Serbia to join Doctor Strong's expedition.

A description of the typhus organism discovered by Doctor Plotz was published, editorially, in the June number of CLINICAL MEDICINE.

On the next page will be found, first, a picture of a group of American nurses. Many young American women, including not a few from Chicago, are serving with the armies of the different nations engaged in the war.

The succeeding picture is of special interest in view of the terrific drive being made by the German armies in Poland while these lines are being written.

PHOTO BY INTERNATIONAL NEWS SERVICE

AMERICAN NURSES SAILING FOR DUTY IN FRANCE. THESE YOUNG WOMEN ARE FROM THE FRENCH HOSPITAL IN NEW YORK. THE PICTURE WAS TAKEN ON BOARD THE S. S. TOURAINE.

PHOTO BY INTERNATIONAL NEWS SERVICE

WOUNDED GERMAN SOLDIERS, JUST ARRIVING AT A FIELD HOSPITAL IN POLAND. SOME OF THE MEN ARE BROUGHT IN ON THE BACKS OF THEIR COMRADES.

Leading Articles

Belladonna and Its Alkaloid

When to Use Them and How to Use Them

By Finley Ellingwood, M. D., Evanston, Illinois

Editor, Ellingwood's Therapeutist; author, "The Eclectic Practice of Medicine" and "Materia Medica, Therapeutics and Pharmacognosy"

IN THE acquisition of an exact knowledge of every practical fact concerning the action of drugs, every practitioner of medicine realizes that there is too little study of the physiological influence and altogether too little knowledge of the clinical action, in its minute detail, of the individual remedy. We depend too much upon generalities. Many of us accept the necessarily brief statements of pharmacists concerning the action of drugs, and these are usually based upon empirical observations only. The physician can make a personal investigation of the specific influences exercised by only a few remedies.

It has been by lot, in the last forty years, to study many remedies alone, in their action, and to observe closely their direct, immediate, and positive action, and all their side-influences. By this means, there has come to me a knowledge that seems to me of such value that I am constantly wishing that every internist, in fact, every family practitioner, could quickly acquire this knowledge—be able to appropriate at once the important conclusions that have been drawn by those observers who have plodded along, year after year, in this field.

I have laid out a study of a few important remedies which, if the editors are willing, I shall, in the next few months, lay before the readers of this journal. These studies not only consider the detail action of the individual remedy, but the comparative action—their specific clinical influence; which will suggest to the readers, I hope, new lines of application which they may find superior to any used previously. I am beginning this study in this article by some desultory remarks on atropa belladonna, the form of this remedy best known to the readers of this journal being atropine.

In the study of the alkaloids, the action of this form of the drug, as compared with the action of the medicine prepared from the whole plant, is usually so different that it becomes necessary to study both the alkaloid and the whole-plant drug, each as individual remedies; the action of the latter only serving as a guide in a general way to the study of the former; and the influence of each should be kept separate in the mind and so considered in prescribing.

Comparison of the Entire-Plant Drug and the Alkaloid

In the study of belladonna and its alkaloid, atropine, we have as nearly an exception to the above rule as there is in the study of any of these preparations. The action of the two is so nearly similar that observations made with one apply very fully to those made of the other. While I have used atropine very freely, the most of my observations, especially those upon children and, in fact, at the bedside, have been made with a carefully prepared tincture of the plant-drug.

I am not in a position to say what the exact comparative strengths of the fluid preparations and the alkaloid are, as the fluid preparations vary greatly. I have depended on one or two single fluid preparations, the strength of which I have determined by long use.

Physiologic Influence of Belladonna

In its full primary influence, belladonna is an excitant to the cerebrum, promoting active hyperemia—a profoundly full, active condition of the cerebral capillary circulation. I will show later on that this influence of dilating the capillaries, combined with the stimulating influence of the agent upon the heart, with a characteristic influence in

contracting the capillaries of the splanchnic area, makes this the most powerful agent known, in its direct influence upon pathologic hyperemia or a tendency to stagnation in any of the capillaries, whatever organ they may be distributed to. I will also show that this influence can *serve as a guide* in the prescribing of this remedy in a rational manner, more profoundly than any other influence the remedy exercises.

When given in full doses, the fulness of the capillary circulation induced produces a flushing of the face, a bright redness of the skin, which in sufficient dose is general over the entire body. This resembles very closely the erythematous rash of scarlet-fever, and from this fact the Homeopathists have one of their guides in prescribing this agent for that disease. It suppresses the secretions of all the organs, especially of the mucous membranes, inducing dryness of the throat and mouth and a tendency toward constipation.

The evidences of cerebral fulness are: restless excitation, mental exhilaration, headache, dilated pupils, intolerance of light, impairment of vision, uncertainty of muscular movement, the latter finally amounting to incoordination with motor paralysis. There is delirium of a talkative character, in some cases violent or furious, with illusions and hallucinations. In extreme delirious excitement, if the dose is a fatal one, there is feeble pulse, cold skin, shallow respiration, and paralysis of the inhibitory nerves of the heart and heart-muscle, resulting in death.

In the influence of this remedy upon the capillaries of the skin, loading them up so actively, there is a contributory influence upon the capillaries of the spinal cord, which decreases the amount of blood in this locality, exercising often an exceedingly beneficial influence, especially when the patient suffering from spinal or cerebral congestion has cold skin, cold extremities, a cold clammy sweat, dilated pupils, and great sluggishness of action. In this case, the remedy is absolutely specific and invariable in its influence.

Belladonna acts directly upon the heart. It is a pure stimulant to this organ, through its influence on the cardiac muscle and accelerator nerves. Previously it was thought that this drug increased arterial pressure. This now is considered doubtful, as positive proof is lacking. Notwithstanding the lack of proof in the laboratory, in the individual there is more force in the pulse, and there is extreme activity, as stated above, in the capillary circulation, especially when there is profound congestion, with cold relaxed skin, difficult breathing from pulmonary hyperemia, with a small compressible pulse and a death-like pallor, followed, in extreme cases, by cyanosis. Then the stimulating influence of 1-80 or 1-60 of a grain of atropine will show itself unquestionably in a very few moments. This influence is very general. Strychnine expends its influence upon the nerve-centers, but the influence of atropine is upon the peripheries in an unquestionable manner, making it probably the most active of the diffusible stimulants. In this rapidity in removing the blood from the lung-cells, it increases oxidation. It thus relieves the pulmonary hyperemia, overcomes cyanosis, and promotes free deep breathing.

Atropine and Belladonna Dosage

In prescribing atropine for the conditions hereinafter named, in order that the dosage may compare with the dosage of belladonna which I have found in every way advantageous in the treatment of such conditions, I will state that atropine granules of the strength of 1-500 of a grain may very readily be adjusted to any patient, whether a small infant or a strong adult. These may be given as granules frequently repeated until their effect is apparent, one, two or more at a dose; but, if they are to be given continuously over a long period of time, especially to children, it would seem to me best to dissolve a number of granules in a definite quantity of water. Ten granules of the 1-500-grain strength dissolved in twenty teaspoonfuls of water in a glass could be given in teaspoonful doses of 1-1000 grain each, repeating the dose frequently, or at longer intervals, according to the experience of the prescriber and the needs of the condition.

For common use, I have a carefully prepared U. S. P. tincture, and my medium dose for adults is one drop of this, repeated every hour until the indications disappear.

Specific Symptomatology

There is a characteristic syndrome present in congestive types of many diseases which rationally indicates the need for belladonna. Preliminary congestion is a common condition in very many diseases, and the influence of this drug, in antagonizing congestion and in producing a normal and effective equalization of the circulation, brings it first to the mind of those who are studying actual conditions, in an endeavor to decide upon the needed remedy.

The syndrome referred to consists in chilliness, mental dulness, and inactivity; dull eyes with dilated pupils, eyes partly open when asleep; skin cool and relaxed, with occasional free sweating; cool extremities; general sluggish capillary circulation.

Every doctor who desires to use atropine or belladonna intelligently should have the facts here stated impressed upon his mind, so that they can be immediately recalled when needed, as there are many cases in which these agents will save a life if the indications for its use are thoroughly known.

Other Applications

The Homeopathists claim that belladonna is especially indicated where the patients are full-blooded; seldom in anemic patients. Children, very active and with big brains, who are disturbed nights by night-terrors or dreams or show other evidences of restlessness are relieved by belladonna. The remedy acts best in full-blooded patients, where there is active localized heat, pain, redness, and swelling, evidences of local inflammation. That is a very common indication—local engorgement. When there are a full, bounding pulse, dull flushed face, dull eyes, dilated pupils, and throbbing carotids, the remedy is beneficial. Negroes, and those in warm climates, are especially susceptible to the action of belladonna.

Rational and Empirical Prescribing

I have often used the peculiar physiological action of belladonna to prove the superiority of prescribing from a knowledge of the rational influence of drugs, rather than prescribing empirically. If any reader will compare the reliable, invariable, and exceedingly plain influences above specified with any or all influences observed from the action of mercury, for instance, the difference between rational and empirical prescribing will be seen at once.

We give mercury in every one of the conditions for which it is prescribed, because it has been previously recommended by some authority for that condition. On the other hand, a patient recalling the above correct influence of belladonna or of two- or three-score other vegetable remedies that act in an equally definite and invariable manner will find, when he comes to a patient who puzzles him by exhibiting a condition that he does not recognize as a common one, that there are distinct indications there for some one of the remedies that he has in mind, and if he prescribes this remedy then, though he may never have heard of such an application before or of an exactly similar condition in its totality, he will be surprised at the immediate and successful results.

I had an experience once in this manner of prescribing, in a condition of which I had never heard, and where death was very near. In consultation with the husband of the woman, I found an immediate, clear indication for oil of turpentine. I prescribed it with confidence, then went to a hotel at 10 p. m., and went to bed, believing that the patient would be safe in the morning, though the husband was in an agony of doubt. So prompt was the remedy in acting in line with this specific indication that the patient was out of danger before 2 o'clock in the morning, and slept soundly the rest of the night.

The Treatment of Febrile Conditions

Belladonna is not a specific fever remedy, but in a febrile disorder there is some local engorgement somewhere; there is local capillary hyperemia and, if the remedy is not contraindicated by an already too active condition of the capillary circulation, it will be found of service in all acute congestive disorders with temperature. I have made it a practice for thirty-five years to combine this remedy with the directly indicated fever-remedy, until the symptoms of local engorgement were overcome, then to continue with the fever-remedy alone. When so prescribed, the influence of the remedy to restrain secretion need not be considered, as this influence is usually antagonized by the agent that is used to control the temperature. This is especially true of aconite administered in conjunction with it, which makes a most reliable combination.

Therapy

Belladonna (or its alkaloid atropine) is indicated at the onset of inflammatory conditions. Given early with aconite, when fever alone is present, then hyperemia does not occur and the inflammation is aborted. If the disease is localized in any organ, displaying the phenomena named above, its influence often is quickly apparent.

In diphtheritis, tonsillitis, croup, bronchitis, pneumonitis, pleuritis, and peritonitis, belladonna stimulates the capillary circulation in the engorged organs, thus quickly preventing the local effects of the acute congestion or inflammation. At the same time it has a marked influence upon the fever when used in conjunction with the other indicated measures. In chronic soreness of the chest,

belladonna is a valuable remedy. It is one of our best remedies in whooping-cough. If half of a drop of the tincture of belladonna be given every two hours, alternated with 1 one grain of alum in syrup, excellent results often are obtained. Atropine may be given for the same purposes, in dosage approximate to the patient's age. In granule form, it may be administered in small quantity at short intervals (one hour or less) with the happiest results.

In the therapeutics of *all continued fevers* this agent has an essential place in some stage of the fever. In fevers of malarial origin, there is no other remedy that will replace it. In the sthenic stage of these fevers, combined with aconite, it is sufficient for many of the indications. If there is an intermission or a marked remission, it may be continued alone during the period.

In *typhoid fever*, it is an important auxiliary during almost the entire duration of the fever. Contraindications may arise, when it must be discontinued. It prevents congestion of the intestinal mucous membrane, and of the glands. This is, indeed, an important function. It stimulates the heart to diffuse the blood uniformly throughout the entire capillary circulation, and thus prevents cerebral engorgement. The brain symptoms exhibit many of the belladonna-indications and are quickly relieved by it. It may not convince the prescriber of its beneficial influence in only a single case, but its continued use, in many cases, is most convincing, as compared with those in which it is not used.

In *meningeal inflammations*, both of adults and children, it is often sharply indicated. This is especially true in subacute cases where there is slowly increasing dulness, with a cold, moist skin, although there is an excess of 2 or 3 degrees of temperature. The pupils are dilated widely, the eyes are dull, the head is drawn back and crowded into the pillow, slowly and constantly rotated from side to side, the eyes are partly, if not widely, opened when the patient is asleep, and the urine passes involuntarily. These cases are sometimes exceedingly stubborn. Belladonna or its alkaloid in frequent doses is the most directly indicated remedy.

In the milder form of *insanity* or other forms of *mental disease*, the Homeopathist prescribed belladonna where there was *violent delirium*, with livid face, dilated pupils, protruding eyes, fury, striking or biting, spitting, inclination to throw off the clothing or tear them, intolerance of light, extreme arterial tension; but he gives in high dilutions.

Some of our writers have claimed that belladonna is just as effective in preventing the development of diphtheria as it is in preventing scarlet-fever. They think they have excellent reasons for this conclusion, and I am inclined to believe with them.

One physician says that in certain forms of *obesity*, with plethora and an inclination for general stasis, belladonna will assist in reducing the amount of fat.

Erysipelas will yield promptly to belladonna or atropine in small doses. It is given with aconite or alternated with rhus. It should not be omitted. It acts most promptly if the tissues are smooth, dark, and deep-red, with sluggish circulation and burning, the inflammation being confined to the structure of the integument, and not in the areolar tissues, there being no pustulation or vesicles present.

Its Use in Eruptive Diseases

In *eruptive fevers*, it is a most essential remedy. It quickly determines the eruption to the skin, and retrocession is almost impossible if it is used early. If retrocession has occurred, belladonna is the most prompt remedy known for restoration of the eruption.

In *scarlet-fever*, it has a salutary influence also upon the fever. It promotes exfoliation and assists in the general elimination of the products of the disease. It is directly opposed to the *renal hyperemia* or the *nephritis* so common as a result of scarlet-fever and diphtheria, and is our most reliable remedy with which to overcome this condition when it occurs. For the nephritis, a drop of the tincture may be given to a child ten years of age every two hours alternated every hour with 1-2 grain of santonin. If there be a large quantity of albumin present, 2 grains of gallic acid every two hours will facilitate a cure. Another remedy of great value is arbutin, the glucoside of uva ursi.

Atropine, given in small doses after an infectious exposure and before the occurrence of scarlet-fever, will act as a prophylactic of the disease. The writer has administered the remedy to the other exposed children when a single case has appeared in a large family, none of whom had an attack. It must be given in small doses: 10 drops of the tincture of belladonna in 4 ounces of water, a teaspoonful every two or three hours to a child of six years, or equivalent dosage of atropine.

Belladonna is of value in *congestive neuralgias*. Full doses should be given. It will cure some exceedingly stubborn cases. It is

an excellent plan to give it with ammonium chloride in stubborn chronic cases.

In *prostrating night sweats*, with enfeebled circulation and cool relaxed skin, belladonna or atropine is advised. The 1-100 of a grain of atropine at bedtime will accomplish excellent results. It may be given hypodermically. Medicinal doses of belladonna during the day will accomplish similar results.

In *headache* from fulness of the circulation of the brain, dull frontal headache, with indisposition, malaise, and cool skin, with mental torpor and a tendency to unpleasant dreams, this remedy is of value; 1-2 drop every hour or two.

The influence of this drug as an antispasmodic against involuntary muscular action gives it some value in spasmodic colic and obstinate constipation. It is in common use in laxative pills, to facilitate the action of the purgatives. In lead-colic, it is advised.

Belladonna in physiological doses is an excellent remedy for the treatment of the conditions present during the passing of *biliary calculi*. It very materially facilitates the passage of the stone, prevents chronic change occurring in the structure of the duct, relaxes the duct by a paralyzing effect upon the circular muscular fibers, and renders subsequent attacks less frequent and less severe.

It is a remedy of service in the treatment of *nephritis*. Albuminuria is the result of greatly increased renal blood pressure and capillary engorgement. Belladonna antagonizes all the pathological processes in a direct manner. In acute cases, its influence is apparent from the first. In subacute or chronic cases, its use must be persisted in, but the results are equally satisfactory where structural change has not taken place in too great a degree. Other indicated measures are not to be neglected.

In *incontinence of urine*, where there is a plethoric tendency, a stagnant capillary circulation or the tissues are relaxed, belladonna is a prompt remedy. It is useful in diabetes insipidus, with cold extremities. In these cases, it should be given in full doses.

In Uterine and Ovarian Diseases

Professor Whitford long advised belladonna for painful menstruation. There is an extreme form of this difficulty, in which the patient becomes very cold; the skin is cold and clammy, the pain is extreme, the hands and feet are icy cold, and the temperature subnormal. Belladonna in full doses to its physiological effect is directly indicated here. The patient can be put into a hot bath, with only good results if this is not overdone, but the equalization of the circulation can be accomplished fully with belladonna. Usually a hypodermic of atropine will accomplish the results more readily.

By stimulating the capillary circulation in the ovaries, this agent is directly useful in the milder forms of congestive dysmenorrhea. The direct indications for the agent are nearly always present in the cool skin, cool extremities, dulness, chilliness, and inactivity. It may be given in drop-doses preceding, during or subsequent to the period.

Its influence in stimulating the capillary circulation of the ovaries in stasis renders it of value in the treatment of sterility from inactivity of those organs. If there are hysterical manifestations at the menstrual epoch, with deficient menstruation, pulsatilla may be used in conjunction with it.

The agent will retard the secretion of milk in the lacteal glands, and is of service when, from the death of the child or from acute inflammation, as in severe mastitis where abscess is threatened, or from other causes, it is necessary to suppress the secretion. It may be given both internally and applied externally, with good results. Its influence is wide and salutary. When restoration of the secretion is desired, it should be promptly discontinued.

Externally, belladonna is used in spinal tenderness, with congestion, also in congestive occipital headaches and lumbago. It is applied in all conditions inducing a lame back and in neuralgia of the spinal and sacral nerves. In violent acute inflammation, it acts as a sedative and anodyne while it exercises its healing properties. It is used in *rheumatism*, in sprained and painful joints, and in boils and carbuncles.

The extract of belladonna is used in relaxing a rigid os uteri. An ointment is made and applied directly to the os. In this form, it is of value in spasmodic urethral stricture and in painful congestive conditions of the rectum. A prepared belladonna-plaster may be applied over inflamed organs while the agent is being given internally.

In the treatment of *phlebitis*, for which we have very few specific remedies, the late Professor Clark, because of its power in determining the blood to the venous capillaries and venous walls, claimed that belladonna, in the form of a strong ointment made from the concentrated extract and kept hot, would produce very prompt results. He invariably used it, and claimed to have had no failures. He would watch for the physiological effect—

the dryness of the mouth, dilatation of the pupils, and dry throat; he would then remove it for a while, subsequently to reapply it in the same manner.

Atropine in Certain Emergencies and Special Conditions

Atropine is of superior advantage, used hypodermically, in certain emergencies; in narcotic poisoning, and as a stimulant in the recovery of patients from shock. The 1-100 grain dose will produce the physiological symptoms in a healthy patient. This dose seldom is exceeded, and from 1-200 to 1-150 grain usually is sufficient. The 1-50 of a grain is the maximum dose.

Solutions of atropine for hypodermic use should always be freshly prepared; old solutions are to be avoided, for, the fluid becomes infected and the alkaloid is partly destroyed.

Within recent years, the action of atropine given hypodermically for controlling hemorrhage has gained so many advocates that it has now become established as a most reliable remedy for that purpose. Doctor Waugh was among the first to bring this use of it forward. He clearly demonstrates its rational, reliable influence for this purpose. From 1-50 to 1-100 grain is injected, and the doses repeated as needed. It is exceedingly useful in uterine hemorrhages.

Doctor Paulding, writing in *The Medical Council*, relates some experiments with the hypodermic injection of atropine in acute alcoholism. There were eleven boys less than 12 years old playing in a freight-yard where some highwines in barrels were standing on open cars. A barrel was tapped with a gimlet and through a straw all of the boys drank freely of the spirits. Doctor Paulding was called to treat one of them. He observed the extreme dilatation of the pupils. This, the characteristic indication for atropine, determined its use, and he gave a hypodermic of 1-200 grain. This one dose saved the boy's life. The other ten boys died. The doctor reports two other cases where death seemed imminent, but which were saved by a single hypodermic injection of 1-100 grain of atropine.

Doctor Shadid dissolves 1-60 of a grain of atropine in 2 ounces of water and gives one teaspoonful every ten minutes until there is relief, in certain conditions of headaches which follow prolonged worry, excessive mental exertion, and with more or less exhaustion.

In acid stomach, where the hypersecretion of the acids is great, atropine, an occasional dose as needed, has been found to exercise a good influence.

Mild solutions of atropine dropped into the ear will relieve earache.

The use of cactoid in subnormal temperatures has strong advocates, but its influence is positively enhanced by combining it with atropine, giving the two in comparatively full doses for a time.

The injection of atropine at the constriction, in case of hernia, or the application of the extract of belladonna over the enlarged hernia has caused the spontaneous reduction in a number of cases. It is a powerful laxaxant in spasmodic or other constrictions.

Atropine has been used with excellent advantage in the treatment of seasickness.

Indicanuria: Its Meaning and Treatment

By J. Favil Biehn, A. M., M. D., Chicago, Illinois

Director, Clinical and Biologic Laboratories, The Abbott Laboratories

INDICANURIA, or the presence of an abnormal amount of indican in the urine, is a comparatively frequent symptom, and one exhibited by many patients. No physician should neglect the simple test for indican in the urine, as this test is of greater value than the test for albumin, for it very frequently is a forerunner, an advance sign of a diseased condition that does not readily manifest itself clinically. The presence of albumin usually is suspected in the urine, the patient generally showing unmistakable signs of renal disease; whereas, ordinarily, in a considerable percentage of cases, the presence of indican is not; its discovery will lead the careful physician to a more complete examination of the patient, to determine, if possible, the reason for its presence.

Tests for Indican

Indol, the result of putrefaction, produced by colon or other bacteria acting upon proteid material, is oxidized to indoxyl in the blood, and is excreted in combination with sulphuric acid and sodium or potassium, as sodium- or potassium-indoxyl-sulphate, which we commonly call indican. In testing for this substance, we add to the urine an equal volume

of concentrated hydrochloric acid, which splits the indican into indoxyl and sulphuric acid. Then some oxidizing agent is added, which oxidizes the indoxyl to indigo-blue. This is now taken up with chloroform, in which it is very soluble, the chloroform becoming blue, the depth of tint depending upon the percentage of indican present. While not absolutely necessary, it is very convenient to have a tube with graduations marked on it, in order that we may use the same amount of urine and reagent each time, thereby obtaining a relatively quantitative test, this being amply sufficient for all clinical purposes.

Ordinarily, Obermayer's reagent is used. This consists of a 2-pro-mille solution of ferric chloride in concentrated hydrochloric acid. Equal amounts of this reagent and urine are mixed, and to this mixture the chloroform is added. The hydrochloric acid, as above noted, liberates the indoxyl, the ferric chloride oxidizing the indoxyl to indigo blue.

There are a great many modifications of this test; and, while Obermayer claimed that his reagent was permanent, yet occasionally difficulties are experienced with it. However, instead of using Obermayer's reagent, various other oxidizing agents, obtainable at any drugstore, can replace this solution. For example, in all cases we first add an equal volume of concentrated hydrochloric acid; then the oxidizing agent is to be added, to develop the blue color. For this purpose, we may use one drop of a dilute tincture of ferric chloride, or we may add a few drops of sodium or calcium hypochloride, or 1 or 2 drops of solution of peroxide of hydrogen, or a drop or two of dilute nitrous acid, or 1 or 2 drops of a dilute solution of potassium permanganate.

Frequently the reaction is obscured by the presence of a violet to reddish discoloration of the chloroform. This usually is due to the presence of iodine, when taken as a medicine. This can readily be differentiated by decanting the urine from the chloroform and adding to the latter a small amount of dilute solution of potassium hydrate, which will combine with the iodine and form a colorless compound, potassium iodide, while the blue coloration of indigo remains in the chloroform; or, we can add a solution of sodium hyposulphite, which also decolorizes the iodine.

Significance of Indicanuria

Indican in itself, so far as known, is nontoxic; but, the indol is one of the products of putrefaction, and it is toxic, it being possible to produce, to a slight extent at least, the characteristic lassitude and headache, even in healthy individuals, by injecting small doses of it. As a result of the absorption of this indol, the tissue-cells attempt to destroy its toxicity by producing combinations of it with sodium or potassium and sulphuric acid and oxygen, in the form of the nontoxic indican.

The presence of indican in the urine, as before stated, is merely a symptom, one of the easily recognized evidences of the abnormal absorption or production of toxic bodies in the intestine. With the formation of indol, there also are produced skatol, phenol, and various other toxic derivatives belonging to this group. The indol, being excreted as indican, and being a product that happens to be very easily tested for, therefore apparently holds our attention.

Microorganisms are always concerned in the production of indican. Usually the intestinal tract is the locality from which it is absorbed, but albuminous putrefaction in other parts of the body may result in the appearance of indican in the urine, as, for instance, in empyema, putrid bronchitis, and gangrene of the lung. This fact must always be borne in mind.

Three Classes of Indicanuria

In general, according to Barr, indicanuria can be divided into three general classes:

1. Transitory indicanuria, due to some temporary anatomic lesion or to insufficiency of the gastrointestinal secretions. Frequently it is psychic in origin.

2. Constant indicanuria, due to permanent or progressive anatomic lesions of the gastrointestinal tract or to permanent insufficiency of the gastrointestinal secretions and constitutional hypoplasia. These cases amount to about 1 1-2 percent. In these cases, the indican can not be removed by high colonic lavage.

3. Recurrent indicanuria, due to some recurrent anatomic lesion of the gastrointestinal tract. If this lesion be in the colon, high colonic lavage will remove the indican. These recurrent cases are particularly interesting to Barr, as he found that they point conclusively to a lesion often before other clinical signs are definitely manifest, such as appenaicitis of a subacute type, cholecystitis, gastric or duodenal ulcers, the large majority of them being cases of cholecystitis.

The Indicanuria of Achlorhydria

In all cases of indicanuria, especially constant indicanuria, it is absolutely essential to

determine the presence or absence of achlorhydria, all cases of which show a constant indicanuria.

So far as our present knowledge of this symptom goes, the basic conditions upon which the presence of indican in the urine depends may be enumerated as follows:

Some abnormal condition that interferes with the normal flow of the digestive secretions, that is, some interference with the normal digestive secretory functions. This may be an anatomic condition; or it may be produced as a result of a circulatory disturbance, due to disease in some adjacent organ; or to some psychic cause; or to some actual disease of the gastrointestinal tract, resulting in a lesion of the gastrointestinal mucosa. This, of course, practically always is accompanied by some interference with the normal flow of the digestive secretions. There is present something that causes an interference with the normal action of the intestinal secretions, which in health tend to maintain a proper balance whereby toxic bodies or, as Abderhalden puts it, bodies out of harmony with the tissues, are held in abeyance, either not absorbed or changed before absorption.

It must be borne in mind that simple constipation, uncomplicated by a pathologic lesion, does not result in an excessive amount of indican in the urine. The greatest amounts of indican are found in lesions of the small intestine.

Among the conditions in which an excessive amount of indican are found in the urine are achlorhydria and hypochlorhydria, either simple or as a result of carcinoma of the stomach. Whether this lack of hydrochloric acid fails to destroy a certain number of putrefactive organisms or, what is more probable, allows putrefaction to occur as a result of improper digestion of the food, thereby resulting in increased production of indican, is not definitely settled, because occasionally in cases of duodenal ulcer associated with hyperchlorhydria an excessive amount of indican is found, although these cases are the exception and not the rule, and here we have a lesion of the mucosa.

Other Causes of Indicanuria

Cases of acute, subacute, and chronic gastritis also show an increased indicanuria. These cases, of course, also present a marked condition of intestinal putrefaction. Anything that interferes with normal peristaltic movement, such as acute peritonitis, other diseases of the small intestine, ileus, and so on, also show a marked increase. In typhoid fever, especially after hemorrhage or perforation, we find a marked increase of indican; also in diarrhea and cholera, but not in dysentery. Although indican is present in the latter condition, it is not present in the large amount noted in the usual bacillary diarrhea.

As a direct result of the absorption from the intestine of excessive amounts of toxic substances, such as indol, resulting in the excretion by the kidneys of an abnormal urinary ingredient, especially if prolonged, there necessarily is produced some change in the renal epithelium. The excretory cells of the kidneys are affected, as a result of which we should expect degeneration to occur. This we find to be so, because practically all cases of arteriosclerosis and high blood pressure show marked indicanuria, both conditions probably being later symptoms of a general disease-condition, and the indicanuria being one of the early signs.

Indicanuria Merely a Symptom

From the above, it will readily be seen that indicanuria is a symptom only, but that it is of great diagnostic importance. It is essential in each and every one of these cases to arrive, if possible, at a definite diagnosis. Unfortunately, as a result of the work of Metchnikoff and others with the bacillus bulgaricus, a great many physicians—realizing from experience that the ingestion of this organism (following a preparatory course of cleaning the digestive tract) will greatly reduce the indican or even cause it to disappear from the urine—feed this bacillus, but do nothing further. They do not establish the exact status of the patient; some even do not attempt to do this, being satisfied with the mere clearing up of this symptom. The result is, some temporary relief.

With the relief that follows such a course of treatment, the symptoms from which the patient usually complains (lassitude, headache, and so on) usually disappear to a sufficient degree that the patient is satisfied; but, as a rule, the relief is only temporary, unless the true, basic etiologic condition is discovered and some means of treatment is directed toward its cure or relief instituted.

Obviously, there should be no treatment for indicanuria; but, unfortunately, we find, not only textbooks, but our medical journals constantly advising methods of treatment for indicanuria, when this is merely a symptom of one of many disease conditions.

The treatment usually outlined, namely, to give cathartics (calomel or podophyllin, fol-

lowed by a laxative saline) to remove as much as possible of the debris from the small intestine, and with it a large number of the offending microorganisms that are producing indol from this debris, following this with an active, living, and efficient culture of the bacillus bulgaricus—either a bouillon-culture, an efficient tablet or as bacillus-bulgaricus buttermilk—will, in the majority of cases, cause the indican to disappear from the urine.

This, of course, means that the production of indol in the intestine is reduced to a minimum, with consequent reduced absorption into the system, and, thus, necessarily, a lessened toxic action upon the patient. Therefore, the patient's symptoms, such as depend upon the toxic action of absorbed indol, disappear for the time being.

This treatment is perfectly rational, of course, it has been fully established, and, in the majority of cases, is efficient.

However, the physician should go further. He should determine, first, whether or not the patient has gastritis. He should determine whether the amount of hydrochloric acid in the gastric juice is normal, because achlorhydria or hypochlorhydria very frequently are the cause of this condition. Following this, it is essential to determine, if possible, the exact alimentary status or, at least, whether or not some gastrointestinal lesion exists, and, if so, proper treatment, if available, should be directed to the relief of that condition.

As to the Proper Diet

It is a well-known fact that practically all organisms, at least those commonly found in the intestines, spare proteid in the presence of carbohydrates. Therefore, aside from the exhibition of the bacillus bulgaricus, it is essential that the patient's diet be carefully supervised, at least to the extent of markedly increasing the carbohydrates, especially sugars, and decreasing, at least to a reasonable extent, the proteid intake. Meat and eggs, even in the normal individual, if taken in excessive amount, tend to cause increased indicanuria. A milk diet, however (either fresh milk or buttermilk), practically always decreases the indican. Many of these cases in which there is some infection of the gastrointestinal tract will recover under this treatment.

Especially brilliant results have been obtained by means of the treatment here outlined in the gastrointestinal diseases of children. It is highly probable that, as a result either of the excessive acid production of the bacillus bulgaricus or of some other inherent quality, the putrefactive and pathogenic bacteria causing these gastrointestinal disturbances in infants are held in abeyance, and, as a consequence, the patient recovers.

These organisms usually do not penetrate the tissues; the conditions are somewhat similar to those existing in Asiatic cholera, in which the bacteria utilize the debris of the intestine, or, in an extreme, the intestinal mucosa, for the production of toxins, the absorption of which produces the greater part of symptoms and lesions.

So, then, if, by some harmless method, we can prevent the multiplication of these organisms, with the resultant toxin production and the absorption of these toxins, the patient recovers. This is the mode of action of the bacillus bulgaricus in these acute diarrheas, at least in so far as we understand it at present.

I would urge upon all practitioners the repeated testing of the urine for indican; and, if this substance is found in excessive amount, to attempt to elucidate the underlying etiologic condition that is responsible for its presence in the urine.

Following out the treatment here outlined, with the aim to prevent the formation and absorption of toxic bodies, is not sufficient, however. The physician, in justice both to himself and his patient, should, in each and every case, attempt to determine the exact status of the patient's gastrointestinal tract, if this is possible. Furthermore, he should always bear in mind that the presence of indican in the urine is an *early symptom* of many chronic diseases which, if recognized in time, are amenable to treatment; and many of these diseases are not suspected, the patient showing no objective signs and complaining of no subjective ones, the presence of indican in the urine being the sole evidence at that stage to lead to its discovery.

The Letters of Doctor Leonidas Playfair

Addressed to a Young Man Just Entering Practice

By A. H. P. Leuf, M. D., Philadelphia, Pennsylvania

[*Continued from page 617, July issue.*]

IT is also well to have some carmine tablets for coloring solutions. For instance, you may dissolve two Seiler tablets in a 4-ounce bottle of water, to be used by the patient as a nose and throat spray. But these tablets have become so popularized that they are readily recognized. Their identification is prevented by the addition of a carmine tablet. Likewise, if you leave two solutions at a patient's house, and both are naturally colorless or of the same color, one may be modified by the addition of one or more coloring tablets, to prevent the patient's getting confused.

There is another valuable practice that you will do well to borrow in part from our homeopathic confréres. It is the use of sugar globules or pellets. Nor need you care about the good-natured chaffing it may entail from your prejudiced though supposedly untrammeled brethren. These have a very useful purpose under various conditions. Above all, they furnish a most convenient and palatable, as well as elegant, way of administering a remedy. Children will take them eagerly, women will welcome them with great pleasure and delight, while active business men will use them with a complacent satisfaction during busy hours and in restaurants without being observed, and especially without being required to use water for dilution; simply being shaken out upon the hand and placed in the mouth.

I find the No. 50 size the most convenient. A 2-dram vial is filled with them, the medicine is added till it reaches up about one-fifth to one-quarter the height of the bottle, and then shaken to bring the liquid in contact with all the globules. In one-half hour it is ready for use, the medicine having permeated and softened the globules, without, however, dissolving them. The ordinary tinctures and fluid extracts can not always be used in this way. If you make your own solution, it must be done with 87-percent (homeopathic) alcohol, this having been found to be the best strength of alcohol to secure maximum penetration of the sugar mass without causing its solution. Absolute alcohol will not dissolve sugar, while pure water will do so promptly.

Aconite is readily given this way. Also minute doses of ipecac or of rhus toxicodendron. I have given the biniodide and the bichloride of mercury in the same manner to extremely susceptible individuals, securing a recession of symptoms without any objectionable effect, although formerly always accompanied in them by signs of poisoning whenever used. These globules constitute a most pleasant form of placebo, although they may be made less agreeable by wetting with nux vomica. In fact, this is one of the best, almost only, way to give nux vomica agreeably to small children.

Please your patients as much as you possibly can without injury to themselves regarding the quantity and form of medicines that you prescribe. Do not insist upon their taking pills if they say they cannot and there is any possible way of otherwise giving the medicine in an acceptable form. Patients are more than mere machines, differing from them in the fact that they are conscious, volitional beings, with likes and dislikes peculiar to themselves that should not be disregarded. I may also add that many persons who cannot take a pill or tablet, will readily take granules.

The suggestions of value that can be made for your guidance in giving your own medicines are so many that it is impossible to think of more than a fraction of them. One other occurs to me that I should like to impress upon you as forcibly as I can. It is in regard to the quantity of medicine you give a patient at each visit.

You well know that there is much waste of medicine when written prescriptions are given. You are taught to prescribe, say, 3-ounce mixtures because they contain exactly 24 1-dram doses, and every 2 drams of medicament in such a mixture yields 5 grains or minims, as may be, to the teaspoonful. This saves the doctor the trouble of mental arithmetic that would be entailed in writing for varying quantities. But it is costly to the patient and needlessly profitable to the druggist, the gentleman who often bears the one relation to the physician and patient that the lawyer is proverbially said to do to the community at large—always gaining, no matter who loses. The custom of writing for 3-ounce mixtures, or for any other uniform amount in which one is accustomed to make calcula-

tions, while senseless on the part of the prescriber, is expensive to the patient, for the reason that medicines commonly are changed before they are entirely used up; and what is left over is waste and the proportionate share of money expended upon them is thrown away. And is it not fair retribution that the doctor who causes such wanton loss should eventually pay for it by long-deferred payment and compulsory adequate discounting of his bill?

This economic sin is largely avoided by dispensing your own medicine, although not altogether so. It is wise to give just enough to last till you see the patient again. To call subsequently and merely order the same medicine continued, looks to most people as if a needless visit had been made. If, however, it is about used up, your coming is welcomed because evidently necessary. To avoid the appearance of being tricky and designing, you must really be so to a certain extent by giving something additional upon which you must not fail to lay special stress. Of course, with more intelligent patients this is not so necessary, as they understand that you may call to watch the progress of the disease with a view to aborting complications.

Patients are very careless about keeping engagements during office hours. If you want to see them at stated intervals, be sure to give them exactly enough medicine to last them till they are to return. If you give them more than this, they are likely to defer coming till their medicine is consumed. That is harmful to them and a loss to you; a loss both in office fees and in prestige; the latter, because the patient does not do as well as he should, owing to his own neglect, but for which you are held accountable.

Have the courage of your convictions in giving small amounts of medicine. Often I have given a single tablet of 1-100 grain of arsenite of copper to be dissolved in one goblet of water (4 ounces), of which the patient was to receive a teaspoonful every twenty or thirty minutes. Some people are inclined to consider this a small equivalent for an office fee. Do not mind them. Be ever conscious of the fact that you are the doctor; that your judgment is supreme as between yourself and the patient and his friends. Maintain, but by manner rather than by explicit claim, that you understand your profession.

If people remark upon the minuteness of the quantity received for the fee paid, remind them that, for instance, a diamond of the same size would cost much more, though it could not cure their ailment. You may even indirectly bring home to them their own ignorance, by assuring them, possibly with a benevolent good-humored smile, that the bulk of a tablet is merely an innocuous medium for holding but the hundredth part of a grain of the actual remedy. Be not intimidated by the large, full-blooded, powerful fellow who sneers at small tablets, sugar globules or granules. Simply give to him to chew a granule containing 1-100 grain of glonoin and tell him that you want to see how it affects him within sixty or ninety seconds. He will be incredulous; but your time will come. At the end of this brief period, with finger upon his pulse, note the lessened blood pressure and the fuller beat. Then ask him if he feels any effect. If he says there is none, ask him how his head feels. He will then admit his error. His undisguised contempt of your little pills will give way to wonder at their unsuspected "strength," and an admission that the art and science of medicine, after all, is utterly beyond his ken.

Send Patients to Your Office for Medicine

Many times you will have to let a patient send to your office for medicine. Some may prefer going to a nearby drugstore. If you see no objection to writing a prescription, do so, but remind them of the choice you give them of getting it at your office without additional charge, if they wish to go for it. They usually decide to call at the office. Should it, however, be undesirable to give a prescription, you should insist upon their sending to your office. For this, you can give this good reason—that no druggist has just the remedy you wish to give. If it is a combination, you can say that you must make it up yourself upon your return home In other words, do not forget that, while you are practicing a liberal profession, you must live by it, and should, therefore, keep its business side in mind.

There are two courses open to you in having patients send to your office for medicines. One is to be followed while your practice still is small, and the other, after you have become very busy. In your earlier years, require them to call during your hours, you putting up the medicine for them as they wait. In this way you get credit for a larger office practice than you have, and benefit to that extent, without harm to anyone. I trust that you understand, however, that medicines needed promptly are to be secured as speedily as possible, without any other consideration than the immediate need of the

patient. This I shall expect you to understand to be my attitude in all matters of policy that I may suggest in these letters to you.

As to Free Sample Remedies

There is yet another matter of importance that I will mention in this connection, rather than incur the risk of forgetting it entirely. It is with reference to the use of sample medicines. Never use a sample medicine except for a well-defined reason. In the first place, to do otherwise is not practicing your profession in an intelligent manner. Secondly, it makes you a tool of manufacturing druggists. Thirdly, very few of them teach you anything, for the reason that the determination of the relative efficiency of drugs requires careful observation of their use for a reasonable length of time in series of cases. Fourthly, never give a sample so marked to any patient. A charity patient will feel hurt, because under the impression that you are either experimenting upon him, or that you think anything that costs you nothing is good enough for him. That wounds him, and we have no license to hurt the feelings of those whom we are gracious enough to treat gratis. Besides this, such person is apt to quit and to decry you, thus being an injury, when he might be a benefit. To give a sample to a pay patient makes him wonder why he is giving you his money. He resents being trifled with. Some physicians are careful enough to remove the labels before giving samples to patients, but life is too short and time too valuable to waste in this way.

My position for a long time has been that, if a drug firm is intent on marking specimens of their goods "samples," they should be permitted to use them themselves. Beware of being a free, though most efficient, medium for the advertising of their goods.

Learn to use well the remedies that have been tried and have well-determined qualities. Do not let similar products put out under different names by rival drug houses mislead you into the belief that they are different remedies, each one a little "better than the other," but all of which must be prescribed for a time to determine their relative worth. Remember that most of these vaunted and high-priced remedies are to be had in the open market, at a much lower cost, under their pharmacopeial name. Thus, acetanilid, worth around 60 cents per pound, was sold at one dollar per ounce under a trade-name. Even now it is the principal ingredient in innumerable $1-per-ounce pain relieving proprietary fancy-named products, but I find the simple drug virtually as useful as I do any of its much-advertised combinations.

After this long, but really very important, letter, you are quite ready to begin, except that we have not yet considered the matter of charges. What are you to ask for your services under varying circumstances? is a most important question. Let us, therefore, consider it in my next letter. Meanwhile, take whatever fee you can get. Observe that I say "get," which I do deliberately for the simple reason that a lesser amount in hand has more value than a prospective larger sum that you may never receive. So begin at once to cultivate the habit of securing your compensation as promptly as possible, meanwhile bearing in mind the former precepts of

Your true friend,

LEONIDAS PLAYFAIR.

The Schick Reaction

A New Factor in the Prophylaxis and Treatment of Diphtheria

By CHARLES F. LYNCH, M. D., Terre Haute, Indiana

WITH the development of antitoxin as a curative agent in the management of diphtheria, medical science made an immense stride forward in the handling of this childhood scourge. Further experiments with antitoxin developed the fact that small doses of, say, 1000 units would nearly always produce immunity of four to six weeks' duration. This also was hailed as a great advance, and the use of these immunizing doses of antitoxin was widely advocated.

However, later observations shook our belief somewhat in the advisability of this practice. It was observed that in a large percentage of persons diphtheria did not develop after being exposed, even though antitoxin was not administered; but, on the other hand, it was found that the use of antitoxin, even in the small dosage necessary for immunization, was not wholly without disadvantages. Not infrequently serum-disease and anaphylaxis developed. So disagreeable

were these side-results that not a few practitioners preferred to wait until there appeared clinical manifestations of the disease before resorting to serum-therapy.

Another interesting fact soon was developed in connection with the laboratory diagnosis of diphtheria. It was found that the appearance of the Klebs-Loeffler bacillus in swab-cultures from the throat was not always a positive sign of diphtheria, even though there were accompanying indications of a catarrhal inflammation. Frequently by the time the laboratory report was received the condition had sufficiently improved to make the clinical exclusion of diphtheria easy. This apparent conflict between laboratory and clinical observation has led some practitioners to doubt the reliability of the laboratory finding. However, more recent developments have widened our conception of this disease and incidentally have exonerated the laboratory-worker in this respect.

Romer, Park, Schick, and other workers have proven by many tests that the blood of a large percentage of patients contains antitoxin in considerable amount. It has been demonstrated that 80 percent of the newborn, 50 to 60 percent of children, and 90 percent of adults have sufficient antitoxin present in their blood to protect them from diphtheria. It is estimated by Schick and other observers that the presence of 1-30 unit of antitoxin to the cubic centimeter of blood suffices to give ample protection; von Behring even asserting that as small an amount as 1-100 unit to the cubic centimeter of blood is enough.

These observations explain why a large percentage of exposed persons do not contract the disease, as well as the fact that, although the Klebs-Loeffler organisms may be found in the throat, diphtheria need not necessarily develop.

It remained for Schick to give us a practical method of determining clinically whether or not antitoxin existed in the blood, in order that we might know in advance those who required serum injections. Schick found that this could be done by injecting a diluted solution of a standardized diphtheria-toxin into the skin-tissue; the injection being of such strength that 0.1 Cc. represents 1-50 of the minimal fatal dose for a guinea-pig weighing 250 Grams.

For making the injection, use an ordinary 1-Cc. all-glass syringe of the Luer pattern, having 0.1-Cc. graduations and a fine, sharp-pointed platinum-iridium needle. The point of injection is the flexor surface of the arm. The site of injection is cleansed in the usual way with tincture of green soap and alcohol, whereupon the needle is inserted *into* the skin—*not* through and underneath it. The point of the needle should rest under the superficial layers of the skin, and still its outline should be plainly visible. The amount of the diluted toxin injected should be 0.1 Cc., and if the needle has been properly inserted, this will cause the appearance of a small bleblike elevation, which disappears in the course of a few minutes.

The reaction is apparent at the end of twenty-four hours. In those persons who give a positive reaction, the local area of injection is slightly swollen and surrounded by a reddish-colored inflamed zone. This reaction increases in intensity during the first forty-eight hours, while the discoloration gradually fades away in the course of a week or ten days. The subsidence of the reaction is followed by a reddish-brown pigmentation and desquamation of the superficial epithelial layers. During the entire period of the reaction, there exists a typical central induration at the point of injection. In those who give a negative reaction, there is no noticeable change at the end of the first twenty-four-hour period.

The occurrence of a positive reaction means that there is an absence of antitoxin in the blood and that this subject is susceptible to diphtheritic infection. On the other hand, if no local reaction occurs, it indicates that this individual is immune to diphtheria, so that antitoxin here is not indicated, even though throat-cultures are shown positive, the Klebs-Loeffler bacillus being present.

Occasionally a pseudo reaction occurs, even in those individuals who have a high percentage of antitoxin in their blood. These false local reaction-marks are recognized by the fact that they appear earlier, are less circumscribed in outline, have a denser infiltration, and tend to disappear within a few hours, leaving but little pigmentation, and are not followed by the superficial desquamation seen in the true reaction.

By the use of this simple test in families, schools, and institutions where a case of diphtheria may develop, it is possible to determine within twenty-four hours those members of this aggregation that are susceptible to the disease. Those giving a negative Schick reaction may safely be dismissed from consideration, for, extensive observations in this country, as well as in Europe, have demonstrated that the test is decidedly reliable. Those giving a positive reaction should be

protected by means of immunizing doses of antitoxin.

In order to detect the presence of carriers, cultures should be made from the throats of every presumptive victim. It will be found that many persons harboring the bacilli give a negative Schick reaction. These carriers should be isolated and properly treated until negative cultures are shown. This means a great saving in antitoxin as well as a great amount of unnecessary annoyance avoided. In this way the number of cases of anaphylactic shock also will be reduced to a minimum, while sensitizing to horse-serum in a large number of unnecessary cases is avoided.

In hospitals, this test is of great practical utility, as by its means internes and nurses about to enter upon duty in contagious wards can be tested and, if they give a positive reaction, can be assigned to other duty or protected either by injecting a prophylactic dose of antitoxin or by active immunization *according* to the von Behring method.

In contagious disease hospitals, when there is overcrowding, making it necessary to place scarlet-fever and diphtheria cases in the same ward, prevention of cross infection is simplified by use of this test. Diphtheria patients who have had scarlet-fever may safely be placed in the same ward with scarlet-fever cases, if the scarlatina patients selected show a negative Schick reaction.

One of the peculiar and interesting facts observed by Park and others in this country is that all the children of a given family almost invariably show the same reaction. They will either all be negative or all will show a positive reaction. It has also been observed in all reported series of these tests that the greatest percentage of positive reactions occurs between 1 and 6 years of age. Below one year the percentage is low, and from 15 years upward the percentage shows a steady decrease. This corresponds with clinical observations.

Recent experiments conducted in conjunction with use of the Schick test have given some interesting results concerning the efficiency of antitoxin when used by the different methods of injection. It has been conclusively shown that antitoxin injected intramuscularly is much more prompt and effective than when given subcutaneously, and it has been found that the value of the serum is increased tenfold when it is given intravenously instead of by the usual method.

Intravenous Injections of Salicylic Acid and Guaiacol

An Experimental Investigation of Their Composition and Action

By Carl Nielsen, Ph. C., Chicago, Illinois

Pharmacologist, The Abbott Laboratories

IN THE treatment of acute rheumatism and also of tuberculosis, a socalled "solution" of salicylic acid and guaiacol is being used to a considerable degree, so it seems, for injecting intravenously. Lately we have had several inquiries as to the formula and the method of preparing this solution, but the formula has not been made public by anyone using this treatment. However, according to the information we have been able to gather, the solution that generally is employed is believed to be composed, essentially, somewhat as follows: Salicylic acid, 100 to 120 grains; guaiacol, 50 to 60 minims; normal saline solution sufficient to make 8 ounces.

It is evident that a true solution of salicylic acid of this concentration (1 : 40) can not be prepared, for, this substance requires for solution not less than approximately 500 parts of cold water. It is certain, therefore, that to the above mixture some substance is added that brings about a complete solution of the salicylic acid as the result of a chemical change. The results of my attempts made to discover an appropriate solvent are recorded in the following lines, together with the formulas suggested, based thereon. It is to be understood, of course, that no substance can be added to the liquid in which the salicylic acid is dissolved which will yield a true solution of this acid of greater concentration than approximately 1 : 500.

Salts Increasing the Solubility of Salicylic Acid

Certain salts commonly are said to increase the solubility of salicylic acid to a considerable extent, notably sodium phosphate, ammonium acetate, ammonium citrate, and sodium borate. However, this statement is misleading, for the reason that the

solutions thus prepared no longer contain salicylic acid, as such, since a chemical change takes place, through which a more soluble salt of salicylic acid—a salicylate—is formed. For example, if we add 100 grains of salicylic acid to a solution of 300 grains of dibasic sodium phosphate (U. S. P.) in 8 ounces of normal salt solution, we obtain a solution of sodium salicylate and of monobasic sodium phosphate. If we use a corresponding quantity of ammonium acetate for the sodium phosphate, there results ammonium salicylate and free acetic acid; similarly with the others.

As the preparation is intended for intravenous injection, often in large doses, it is essential that the substance added to the normal saline solution in which the salicylic acid is "dissolved" be of such a nature that the resulting byproducts either are inert or of additional benefit.

We have prepared a series of "solutions" of salicylic acid and guaiacol in normal salt solution, by adding different substances, including dibasic sodium phosphate (U. S. P.), dibasic ammonium phosphate, sodium phosphate and glycerin, sodium glycerophosphate, ammonium acetate; besides, several others.

Sodium or Ammonium Phosphate the Best Aid to Solution

By testing each of these solutions physiologically, we have come to the conclusion that, if one desires to prepare the concentrated solutions of salicylic acid by adding a chemical agent, either the phosphate of sodium or that of ammonium seems to be the one to be preferred, for the reason that the respective monophosphate formed in this connection in addition to the salicylate, does not interfere with the action of the latter. In fact, the orthophosphate of sodium and of ammonium, whether mono or dibasic, when injected intravenously into dogs and rabbits, produced no visible change in the animal's condition, even when administered in relatively large quantities. Neither did these phosphates change the blood pressure of a dog to any considerable extent.

Symes and Gardner, in their article on the toxicity of sodium phosphate administered in food, published in *The Biochemical Journal* for March, make this statement: "We compared the activity of the phosphates, in solution, by intravenous injection, and confirmed the findings of earlier workers, viz., that the orthophosphate (of sodium) is relatively inert."

Some Suggested Formulas

With the foregoing observations, as a basis, we suggest the following formulas for preparing the compound solution of salicylic acid and guaiacol, for intravenous injections:

Sodium phosphate.....grs. 300
(Or, ammonium phosphate, grs. 100)
Normal salt solution.....ozs. 8
Dissolve, then add
Salicylic acid.....grs. 100
Dissolve, then add
Guaiacol.....gtt. 50 to . 60
Shake thoroughly, then filter.

As explained, this solution contains sodium (or respectively ammonium) salicylate, sodium (or ammonium) monophosphate, and guaiacol in normal salt solution. Their physiological action is due to the salicylates and the guaiacol, while the phosphates practically are inert. It would, therefore, seem simpler to dissolve the quantity of the easily soluble sodium or ammonium salicylate, corresponding to 100 grains of salicylic acid, in 8 ounces of normal salt solution, then add the guaiacol.

Accordingly, such solutions were prepared and their physiological action compared with that of the above-mentioned salicylate-phosphate solutions. Their composition was as follows:

Sodium salicylate.....grs. 116
(Or, ammonium salicylate, grs. 112)
Guaiacol.....gtt. 50
Normal salt solution.....ozs. 8
Dissolve by shaking, then filter.

Each of these solutions was used in making intravenous injections into a series of dogs and rabbits, in the proportion of 8 fluid ounces to 130 pounds of body-wieght. In the dogs, the injections were made into the cephalic vein (with one exception, in which the jugular vein was used) and were repeated twice, with 8-day intervals. In the rabbits, the injections were made into a vein in the ear. All injections were made very slowly, at a rate of one-tenth of an ounce per minute.

Symptoms Produced

The symptoms produced were the same for all the solutions, and may be described as follows:

Respiration and pulse were increased. Then followed general depression, muscular weakness, and slowing of the rate of the heart beat. The symptoms were strongest in the dog which received the injection in the jugular vein, and there occurred nausea and vomiting thirty minutes after the injection.

The rabbits, as a rule, were more susceptible than the dogs. In one rabbit, the hindquarters apparently were paralyzed immediately after the injection; but this paralysis lasted only a few seconds, and the animal recovered rapidly. In another rabbit, this same paralysis of the hindquarters occurred, and this one did not recover. The primary symptoms had been very pronounced in this rabbit, and from the time of the injection until death (in eight days), frequent involuntary passage of urine and feces was observed. The postmortem examination of this rabbit showed, however, that it had suffered from pneumonia and fatty degeneration of heart and liver previous to the injection. All the other animals recovered rapidly.

Little Effect on Blood Pressure

A test of the effect of each of the solutions mentioned on the dog's blood pressure also was made. The effect was the same for all of them. The injections which were made into the saphenous vein were followed first by a slight decrease and then by a slight increase of the blood pressure. Approximately half an hour after the injection the blood pressure was normal again, but the heart at this time was weak and dilated. Between one and one-half to two hours after the injection the condition was normal again.

In accordance with the foregoing, it may be said that the solution salicylic-acid and guaiacol by addition of the phosphate of either sodium or ammonium, as in the preceeding formulas, or—still simpler—by dissolving the corresponding quantity of the salicylate and adding guaiacol to the solution may be used for intravenous injection. Or, the guaiacol may be replaced by the corresponding quantity of some other soluble creosote combination. Dr. Alexander Chittick, in his book, "Biochemistry and Physiological Therapeutics," gives the following formula, saying that he has used the preparation successfully:

Calcreose (calcium creosote)	ozs. 2
Iron phosphate	oz. 1
Magnesium glycerino-phosphate	grs. 20
Potassium phosphate (dibasic)	grs. 20
Sodium chloride	grs. 60
Sodium salicylate	grs. 200
Water	ozs. 32

This mixture is to be shaken frequently during twenty-four hours, and then filtered. The dose is 5 Cc. intravenously, repeated as often as necessary to effect a cure.

All these solutions of salicylates become yellowish-brown upon standing, which, however, can be prevented by adding, before filtering, a trace of free salicylic acid to the solution and shaking.

[The experiments conducted by Mr. Nielsen were made at the suggestion of the editor of this journal, who has received many requests for information concerning the intravenous method of treating tuberculosis, as practiced by Baldwin, Henderson, Duket, and others. All these gentlemen employ a solution alleged to contain salicylic acid and guaiacol, and all refuse to give the exact composition of the mixture which they use. However, it is plain that the doses employed are enormous; indeed, this is frankly admitted by those using this method. The reaction is always marked, and sometimes so severe as to be alarming. There is often a decided rigor, some rise of temperature, and usually very free sweating. There is certainly a reasonable suspicion, amounting to actual fear on the part of some of us, that such heroic medication is not free from danger, especially when the patient is suffering from well-advanced tuberculosis.

It was in order that we might have some basis for comparison, and some measure of the intensity of systemic action, that we asked Mr. Nielsen to make up solutions of varying formulas, and then to try them on dogs and other animals. The preceding paper is the record of his results and is presented for just what it may happen to be worth to our readers. Let them not assume, however, that, because a healthy dog showed no great signs of physical depression from the intravenous injection of a large dose of sodium salicylate and guaiacol, that an anemic, broken-down, half-dead consumptive can be given a similar dose with safety. We urge extreme caution, and small dosage to begin with, as well as great care in the selection of cases.

The intravenous treatment of acute rheumatism has much to commend it. This has already been described in Clinical Medicine. (See number for May, 1914, page 423.) As therein cited, Connor injected a plain solution of sodium salicylate, administering 15 to 20 grains intravenously every eight to twelve hours, injecting from a sterilized 10-Cc. all-glass syringe, each Cc. of his solution containing 3 grains of the sodium salicylate. Before administering, the skin over the flexed surface of the elbow is sterilized by painting with tincture iodine. The needle must have a fine, sharp point, the solution must be freshly made (filtered, of course), and it must be injected slowly.

Patterson prevers the following formula:

Sodium salicylate,
Guaiacol,
Glycerin, of each.....Gm. 41.29
Distilled water, enough to make....Cc. 2000.00

Of this mixture, 75 Cc. is used, together with 125 Cc. of normal saline solution at a temperature of 100° F. This quantity contains approximately 23 grains each of sodium salicylate and guaiacol. It is allowed to run into the vein slowly, taking from five to ten minutes for completing the infusion.

Doctor Patterson says that occasionally patients complain of dizziness or sleepiness during the administration of this dose, and in one case there was slight delirium. This dosage is much less than that employed by those using similar mixtures in treating tuberculosis. Patterson claims that it is very efficient in rheumatism. He uses it in the Metropolitan Hospital, on Blackwell's Island, New York. Patients are usually cured, he asserts, in from six to twelve days, while there is almost immediate relief.

Should any of the readers of CLINICAL MEDICINE try this method, either in tuberculosis or rheumatism, we shall appreciate a full and detailed report of the results obtained. We are here to help one another. Can we not all do our full share?—ED.]

Seminal Vesiculitis

By WILLIAM J. ROBINSON, M. D., New York City

Chief, Department of Genitourinary Diseases and Dermatology, Bronx Hospital and Dispensary; Editor of "The American Journal of Urology, Venereal and Sexual Diseases," and "The Critic and Guide"

SEMINAL vesiculitis, or spermatocystitis, is an inflammation of the seminal vesicles, either one or both. It is impossible to say how frequent this complication of gonorrhea is, because, if present in a mild degree, it may give practically no symptoms, and even if present in a fairly severe degree its subjective symptoms are confounded with or overshadowed by those of the posterior urethra and the prostate gland. It is only by a careful rectal examination that we become aware of its presence.

The most common cause—and by far the most important cause—of seminal vesiculitis is gonorrhea. An important predisposing cause is coitus during the acute or subacute stage of gonorrhea.

The symptoms, as stated, may not be distinguishable from those produced by the onset of an acute prostatitis. There is one symptom, however, which distinguishes it from the latter; that is, the ejaculations may be precipitate and the semen may be mixed either with blood (hemaspermia) or with pus (pyospermia). When the onset is very acute, the patient may feel nauseated, may vomit, and feel like fainting.

The diagnosis of a seminal vesiculitis is made (1) by rectal examination, (2) by examination of the secretion obtained by expressing, or "stripping," the seminal vesicles.

The examination by rectum is performed the same way as the examination for prostatitis, only here the patient must invariably assume a strongly stooping position, bending his body practically to an angle of 90 degrees. The finger must be pushed in as deeply as possible, for, the seminal vesicles lie above the prostate gland and are directed outward. Sometimes the vesicles are situated so high that even the most expert finger cannot reach or feel them. Normal vesicles, particularly when empty (soon after coitus), can hardly be perceived by the examining finger, and, when felt, give the patient no pain; however, when inflamed and distended with secretion, they may be felt like two miniature tortuous "Frankfurter" sausages on each side of the prostate gland, and pressing on them causes the patient the most exquisite, the most sickening pain imaginable. Strong pressure upon an inflamed seminal vesicle is even more liable to induce syncope in the patient than is the massaging of an acutely inflamed prostate gland. There is one difference that I have noticed between the sensation produced by massaging a seminal vesicle and a prostate gland: the patient gets used to the handling of the latter, but never gets used to the handling of the former; he always has a sickish feeling after it.

To examine the vesicular secretion properly, so as to be sure that it comes from the vesicles and not the prostate gland, the latter first is massaged thoroughly, then the patient urinates, the bladder is washed out with a quart of boric-acid (2 percent) or mercury-oxycyanide solution (1 : 5000), then the bladder is filled again with warm boric-acid solution, the vesicles are massaged, and the patient empties his bladder. These washings contain the vesicular secretion, which

then is examined microscopically. Microscopic examination will show numerous blood- and pus-cells, deformed spermatozoa, gonococci and various other bacteria.

The greatest gentleness must be exercised in massaging the seminal vesicles. They are very tender organs, their walls are thin, and serious damage may be produced by handling them roughly. The suggestion, therefore, to employ a prostatic instrument, such as Feleki's finger, for massaging the vesicles, when the finger is too short to reach them, must be condemned unequivocally. We can never know just what force is being applied when we use a heavy steel instrument like the one named. There is great danger of rupturing the delicate wall of the vesicle.

I have already mentioned that in some patients the vesicles are situated so high or so out of the way that the most expert finger cannot reach them, and therefore cannot be massaged; but, there also are cases in which we can feel the vesicles very well and, still, by the most persistent massage, are unable to express any of their secretion. This may be owing either to the peculiar situation of the ejaculatory ducts or to their complete inflammatory occlusion. Massaging of such vesicles will, of course, do no good, and if the symptoms which their inflammation produces are severe and do not yield to treatment they will have to be dealt with surgically.

The surgical operation consists in draining the vesicles through the vas deferens, as suggested by Belfield, of Chicago, or in vesiculotomy, as suggested by Fuller, of New York; however, as these are not operations for the general practitioner we will not use up space in describing them here.

The treatment of seminal vesiculitis is essentially the same as that of prostatitis: gentle massage, hot rectal irrigations, the thermophore, hot sitzbaths, and gonococcal or, preferably, mixed vaccines.

Vesiculitis is the longest-lasting of all the complications of gonorrhea. Annoying as prostatitis is, a seminal vesiculitis is still more so. It requires, indeed, an inexhaustible fountain of patience on the part both of physician and patient. Nevertheless, it must be treated, because inflamed and purulent seminal vesiculitis forms the chief source whence arise the various metastases of gonorrhea, such as gonorrheal rheumatism, gonorrheal myelitis, gonorrheal inflammation of the serous membranes, endocarditis, and gonococcemia.

Epidemic Cerebrospinal Meningitis*

By George H. Candler, M. D., Chicago, Illinois

Author of "Everyday Diseases of Children"

CEREBROSPINAL meningitis is one of the most fatal diseases which we have to encounter. It is not seen so frequently in the country as in crowded districts and among the illy nourished and poorly housed. From time to time, however, it breaks out where least expected and carries off children from the most carefully guarded homes.

The diplococcus intracellularis meningitidis is the undoubted cause. The mode of entry of the organism is unsettled, but it is supposed that it gains access through the cribriform plate; at any rate, the organism has so often been obtained early from the upper nasal passages that it would seem positive that this is the point of infection.

The disease, now regarded as communicable, appears at long intervals in the larger cities, disappearing as suddenly as it came. In remote hamlets, one, two, three or a half dozen cases will be seen within a few days, and then for years there will be no sign of the disease.

In the winter or early spring months epidemics are most likely to appear; in the hot months there is almost a total dearth of cases. Children under two years of age are not subject to the infection, and one child may be stricken in a large family without any other member suffering. The meningococcus has been found in the nasal excretion of 50 percent of children examined during the first few days of the disease. A marked leucocytosis (15,000 to 30,000) obtains in all cases, the increase being chiefly in the polymorphonuclear cells.

The Pathology of the Disease

The changes found after early death are slight; the meninges are inflamed, there is some serous exudation, and the cerebrospinal fluid is turbid or flocculent; there is also an

*This article is reprinted from Doctor Candler's "Everyday Diseases of Children," a new edition of which has recently been printed. Price $1.00. Address this journal.

increase in the amount. If the patient lives more than three days, quite uniform lesions are found at autopsy: the ventricles are distended, and abundant greenish fibrin is distributed over the base and anterior part of the brain, serum or seropus distends the ventricles, and the substance of the cortex is more or less reddened. Minute hemorrhages or even abscesses are found in the superficial layers, and cell infiltration is marked.

Changes in the cord are similar to some extent, but not as well defined. Enough has been said, however, to show conclusively that almost any treatment may prove useless, it being practically impossible to limit the infection before destructive changes have occurred in a vital center. Epidemic cerebrospinal meningitis is still known in some parts of the country as "spotted fever," but this term in the West describes mountain-fever, an entirely different disease.

The Access and Progress of the Attack

The disease may come on with lightning-like rapidity—hyperacute or fulminant form—a child, for instance, being well at 9 a. m., having nausea and headache at 11 a. m., some fever and vomiting at noon, becoming weak, semicomatose and with a temperature of 104°F. by 3 p. m., opisthotonos marked and temperature of 105°F. at 6 p. m., coma deepening and petechiae noticeable over the face and neck at 9 p. m. (temperature—rectal—106°F.), death at 2 a. m., preceded by convulsion. Such a case occurred in my own practice, and though everything possible was done (even to intraspinal injections of creolin and intravenous injections of colloidal silver) it was impossible even to limit the severity of the disease.

Other cases—ordinary form—present the following phenomena: Headache, frequent vomiting, increasing fever; prostration is very marked and partial insensibility may be present by the second day; there will be evidences of brain involvement before this, perhaps convulsions, delirium, hyperesthesia, opisthotonos. The temperature early may be 101°F., but it gradually rises to 104°F. The child complains of severe pains in the head and back of the neck, and often it bores its head into the pillow. Rigidity is quite marked in the ordinary cases, though in the fulminant type relaxation is as often noted. There will be a pulse-rate of 120-160, but it is extremely irregular. The respiration at times is shallow and quick, at others stertorous and tardy.

The typical eruption may appear or only a few spots will present; sometimes none whatever can be found. Tremors will be noted from time to time as the disease advances. By the fifth or sixth day the child will be rigid—resting upon the side with arched spine and flexed extremities—the bowels are constipated, vomiting is constant and prostration and loss of weight progressive.

At times remissions will lead one to hope that the worst is over, but in a few hours an exacerbation will threaten life. This sort of thing may continue from two to four weeks when, if recovery is to occur, there is a gradual abatement of all symptoms—the fever falling, the mind clearing, and food being retained. Finally, the child, weak and limp as a body can be, lies convalescent.

Cases running a febrile course of six to eight weeks are reported; I have not encountered any. It is not safe to consider the child well until the temperature has rested at or below 99°F., for several days, with the mind clear and perfect freedom from ridigity and vomiting.

Death, when it comes in the middle period, occurs during coma or after a convulsion; heart failure may cause death at any time; occasionally pneumonia hastens the end.

If these perils are avoided and the case runs three weeks, or four, sheer exhaustion may cause death. The patient is merely the shadow of a child, lying relaxed (or tense as a bow-string), with sunken abdomen and fleshless limbs, unconscious, feebly breathing and with sores (herpes) surrounding mouth and nose. The pulse can hardly be detected, the tongue is brown and dry, the eyes turned up so that the whites alone show. Here death comes suddenly and quietly—or with a last convulsive quiver. Strabismus, nystagmus, facial contortions, and paralysis of various muscle-groups may have occurred earlier; in fact, it is hard to say what may not occur during a prolonged case of cerebrospinal meningitis.

Kernig's Sign Constant

In all cases the urine is scanty, highly colored and full of glucose. Kernig's sign is constant; Babinski's reflex (extension of the great—and other—toes on tickling the sole) not always to be elicited. The reflexes generally are markedly exaggerated.

An intermittent type is seen in which the temperature chart resembles that of pyemia; chills and drenching sweats may occur also.

Finally, an abortive form occurs, occasionally toward the end of an epidemic.

Here the classical symptoms are present, but just as the disorder seems at its height a sudden change takes place, and within twenty-four hours the patient is evidently on the way to an early recovery.

Diagnosis in Doubtful Cases

In epidemics, diagnosis is easy, but in sporadic cases one must trust to the severe headache, high fever, stiffness of neck-muscles (opisthotonos), Kernig's sign, presence of petechiae, tremors, and early delirium or coma. Lumbar puncture will confirm the diagnosis: 2 to 4 drams of spinal fluid should be withdrawn, which will be found turbid (sometimes pus and blood are present), and the microscope will reveal the meningococcus in most cases.

Lumbar puncture is easily performed anywhere. Strip the patient's back and place him on the right side, with knees well drawn up, left shoulder to the front. With an aspirating needle, well sterilized, penetrate the canal between the third and fourth or fourth and fifth lumbar vertebrae. The needle is directed upward and inward, puncture being made one centimeter to the side of the median line exactly midway between the processes. At two centimeters in children (or a little deeper) the canal is entered, and the fluid should exude drop by drop. If failure occurs, withdraw the needle and make a fresh puncture. The fluid should be caught in a sterile test-tube. It may be necessary to clear the lumen of the needle. At this time, unless antimeningitis serum is available, it is well to inject 2 to 3 drams of a 1-percent lysol or creolin solution—or as much fluid as has been withdrawn.

The Problem of Treatment

In the fulminant form it sometimes seems almost impossible to accomplish anything—time is not given us. However, from 15 to 25 Cc. of serum should be injected (after withdrawal of an equal quantity of spinal fluid) at the earliest possible moment. The injection must be made very slowly and the serum warmed first to body temperature. Older children and adults require 20-25 Cc.; infants should not receive more than 15 Cc. Usually one such dose every twelve hours will suffice. The blood pressure steadily falls from 20 to 30 m.m.; the lower the pressure the longer the time necessary for injection. When it has been reduced 20 m.m., the administration of serum is discontinued. After each injection, there is, as a rule, a decided change for the better. The temperature often falls 2 to 3 degrees after the first dose and fails to reach again the high point; not infrequently no further elevation occurs. Delirium is dissipated and the pulse and respiration assume a more satisfactory character. The stiffness of the neck and limbs is perhaps the last symptom to show improvement.

Use the Antimeningitis Serum

Though there can no longer be any doubt of the efficacy of serum it is not always available, and, even where it is, cannot always be relied upon to control the disease alone. The wise physician will avail himself of this potent weapon and regard it as a valuable addition to his armamentarium, not as his sole reliance. The best results of all have been secured by the intelligent conjoint use of serum and definitely acting drugs.

The bowel should be flushed and elaterin, gr. 1-64 to 1-32—or elaterium, gr. 1-6—given half-hourly for three hours, with saline laxative draughts at short intervals. Every hour give calcium sulphide, gr. 1-3 (two granules), and echinacoid, gr. 1. Gelseminine, gr. 1-500, every thirty minutes for four doses, then hourly till temperature falls. It is important that meanwhile the patient should be in the wet-pack. Wet the sheet with a carbolated saturated solution of epsom salt and get the patient into it at the earliest possible moment. Medicines are given while the patient is in the pack. Ice-coils are applied to the head, hot water-bags to the feet. A full dose of pilocarpine may be given hypodermically as soon as the child is in the pack. After two hours remove the patient (unless the bowels are moving freely earlier), rub thoroughly with a rough towel and place in a clean bed.

After the patient has been made comfortable proceed to do lumbar puncture, and after withdrawing 15 to 25 Cc. of spinal fluid, inject an equal amount of serum, or, failing this, a 1-percent lysol or creolin solution at body temperature. Eight to ten minutes must be consumed in making the injection. Haste is dangerous.

If serum is to be used later, do not inject creolin or lysol, and always give serum the preference. If, however, it cannot be obtained within forty-eight hours, it will be wiser to rely upon the creolin. Rub in over the axillary and submaxillary glands half a dram of unguentum Crédé, or inject intravenously gr. 1-2 of collargol (colloidal silver) in the form of a 1:200 solution. I do not hesitate to use both measures. If lumbar puncture cannot be done, repeat the in-

travenous injection in twelve hours. Some excellent results have followed such use of colloidal silver.

It is best to choose rather carefully between aconitine, veratrine, and gelseminine. In markedly sthenic forms aconitine and veratrine will be given alternately, or together even, in fairly full doses "to effect;" in asthenic conditions, gelseminine and cicutine hydrobromide—given with due care—will produce better results. Small quantities of very thin gruel with barley water, milk and vichy, the prepared blood-foods or grape-juice may be given—iced usually. Nuclein here is of paramount importance: twenty drops may be given and allowed to be absorbed from the buccal mucosa every four hours. If the heart wavers, cactoid (gr. 1-64) will promptly improve its action.

Nothing more of rational character could be done for any patient than is here suggested, and, if the case can be seen soon and treatment is properly and boldly carried out, at least one-half of even the severe cases should be saved, but, too often, death is imminent when we reach the bedside.

Treatment of the Moderate Form

Here practically the same treatment is indicated, but we have time to get results, and usually in two to three days we have control of the case. The remarks already made relative to the administration of serum or injection of creolin or lysol apply here. The sooner lumbar puncture is done, if it is to be performed at all, the better the results to be expected.

Elaterin need not be used. Blue mass and soda, gr. 1-2 each, podophyllotoxin, gr. 1-12 half-hourly for four to six doses being efficient. Wash the bowl out first and every eight or ten hours subsequently. Saline laxatives as before. The wet-pack as needed, and inunctions or injection of colloidal silver once or twice each day, as symptoms may demand. I believe I saved one child's life with inunctions of modified mercurial ointment over the entire scalp (head shaved) and down the spine. Gelseminine and cicutine control spasm and photophobia; it is well to give fairly full doses at half-hourly intervals "to effect," then stop.

If vomiting is frequent, feed per rectum; peptonized milk, sanguiferrin, fresh beef juice, panopepton, predigested cereal gruel, and the like, with cracked ice, by mouth, if tolerated. Cold barley water with lemon juice *ad libitum*.

The buccal cavity and nares must be kept as nearly aseptic as is possible; use menthol compound or any effective alkaline antiseptic freely with atomizer. In every case give one of the sulphocarbolates—or the triple salts—to maintain a "clean" alimentary tract.

Treated thus, most curable cases respond within the first week and it then only remains to prevent relapses and support vitality. Nuclein, calcium sulphide and echinacoid will have to be continued; epsom-salt sponging, the daily saline laxatives, and enemata will usually keep the temperature down to below 100°F. Colloidal-silver ointment is rubbed in daily. Cicutine and gelseminine are used if spasm and fever recur.

Absorption of exudate should be hastened the moment the acute stage has passed, and nothing has worked as rapidly in my hands as this formula: Mercury biniodide, gr. 1-64; iodoform, gr. 1-6; phytolaccoid, gr. 1-3; arsenous iodide, gr. 1-64; rumicoid, gr. 1-6. This should be repeated every three hours till slight signs of iodism or arsenic sufficiency are observed. Under the conditions tolerance is remarkable. Children under six receive half the above dose.

The physician who has tried old-fashioned methods with disastrous results may institute these measures with the assurance that they will prove successful in at least the majority of cases. Every procedure is based upon a clear conception of the pathological conditions present, and we have to do exactly the right thing at the right time (and several things together) in order to save life. Empiricism or experimental medication is worse than useless—it is criminal!

The convalescent stage requires close attention. Fresh air (change of scene), forced nutrition and massage are essential. A bitter tonic—quassoid, juglandoid, berberine—will be required for some weeks, before each meal, and the arsenates with nuclein (two granules) should be given after food. Calcium lactophosphate, gr. 1-3, may be given three times daily with cactoid, gr. 1-128, and sanguiferrin, one dram, will be exhibited with meals. Digestion often is unsatisfactory; if it is, papain, gr. 1-3, should be exhibited with the arsenates. Cascaroid will prove a good laxative, though the anticonstipation formula is unquestionably often to be preferred. Do not give too much strychnine. If extreme nervousness or sleeplessness exist, push avenin and scutellaroid for a week or two.

In conclusion, let me urge the physician not to use opiates at any stage unless he has decided that death is inevitable—and we have no right to assume such a thing while there is life.

Radiant Light and Its Therapeutics*

By George Starr White, M. D., Los Angeles, Calif.

Fellow American Medical Association, Fellow American Electro-Therapeutic Association

IT IS the purpose of this article to cover some of the principal points regarding radiant-light and heat therapeutics. Radiant light and heat may not be curealls for every disease, but they are very valuable adjuncts to other modern methods.

The Lamps

There are various styles and sizes of incandescent lamps, as also of arc lamps. The latter have many therapeutic values, and may in some cases be preferable to the incandescent, but, from a practical standpoint, the incandescent light is superior.

Some consider that the small therapeutic lamps of from 32 to 50-candle-power have as much value as the larger ones, except that they do not cover as large an area at a time. This, though, does not seem to be so, judging from clinical observation, unless one be treating a very limited area, when 50-candle-power lamps give very good results.

The reflectors in lamps for therapeutic use should be built only from patterns that have been scientifically proved to be correct, as the value of the rays is greatly enhanced and the candle-power increased by being reflected in proper radiations. The reflection, instead of being by a parabolic reflector with one focal point, should be made by a corrugated reflector with conical sides, which projects lines in parallel and crossing lines of radiation, since it has two parallel fields of greatest brilliancy and intensity.

Carbon-filament lamps give a much greater proportion of heat to light than do the tungsten lamps. For some conditions, the great amount of light given from the tungsten lamp seems to make it preferable.

Recently there have been put on the market incandescent lamps giving from 500 to 2000 candle-power, having the tungsten filament in argon gas at atmospheric pressure. We are now using these lamps and like them far better than the old-style lamp.

The radiation of light from a carbon-filament lamp is about 1 1-2 percent, and the rest is heat, while the light from the tungsten filament and argon-gas-filled lamp is from 10 to 12 percent, and the rest heat.

*Read at the 24th annual meeting of the Southern California Homeopathic Medical Society, held at Los Angeles, October 14, 1914.

Therapeutic Value of Light and Heat

Radiant light and heat are best applied by means of the incandescent light, which fills the widest field of therapeutic indication. As it is deprived of the ultraviolet radiations, it can be applied for a longer time, without danger of producing the disagreeable hyperemia or of tanning the surface of the skin, which consequences interfere with the highest degree of therapeutic efficiency.

Many physicians seem to be of the opinion that "light is light," no matter from what source; but, spectroscopic analysis shows very great differences. It is now recognized by the best authorities on phototherapeutics that it is the yellow-green of the spectrum that is responsible for the nutritional influence light has in all poor metabolic conditions. Red light is irritating, nonactinic, nongermicidal, and stimulating; while the visible violet is just the opposite in its effects, being sedative, powerfully chemical, bactericidal, and hypnotic. Because of these facts, it is important that light used in therapeutics should contain enough red rays to produce the proper stimulation; enough of the yellow-greens to raise the percentage of the hemoglobin and thus increase its oxygen-carrying power; and should also be rich in blue-violets.

It can be seen that radiant light, to be of the most therapeutic value, should contain all of the full spectrum-rays that will go through an incandescent-lamp bulb. Ultraviolet rays will not pass through glass; and that is the advantage of incandescent lamps over arc lights. The wave length is so short in the ultraviolet rays that the skin is only superficially affected by them; besides, they seem to act as a barrier to other rays passing through the tissue, because of the pigmentation of the epidermis. Arc lamps, for this reason, are not suitable for deep-penetration treatments.

As the wave lengths of colors increase and the frequency of their vibration diminishes from ultraviolet to infrared, the penetration increases down the scale, while, conversely, it becomes more and more superficial in ascending—in other words, penetration is inversely as the frequency and directly as the wave length.

Effect of Colors

1. Red weakens the processes both of assimilation and of disassimilation.

2. Green light stands lower than white in regard to the accumulation of nitrogen, as well as to qualitative metamorphosis. Destructive changes proceed more vigorously in green light.

3. Yellow and violet lights induce the maximum of energy in all the vital processes, more complete metamorphosis prevailing under the influence of violet light.

4. Darkness causes a diminution in the exchange of nitrogen in the body, and nitrogen instantly diminishes in the daily amount of urine.

5. Light containing the full visible spectrum gives the best general therapeutic results. This can be proved clinically.

It has been observed that workmen who are compelled to labor in red-lighted rooms suffer from intense nervous and mental excitement and have a tendency to be quarrelsome. Red shades and draperies have an irritating effect upon the inmates of a place so decorated. This can be explained by the weakening influence of red light upon the processes of assimilation and disassimilation. The state of excitement of delirious patients who are put in a red room is greatly increased. In several instances, smallpox patients who were kept in a red room begged to be taken into the light, as their mental distress was so great. Some suffer from delirium and frightful hallucinations, which at once pass away when they are carried into white light. It is popular knowledge that a bull, as also some other animals, will become furious when seeing red objects. From these facts, it would seem that the frequencies of the red-ray region are to be regarded as dynamic and excitative to the nervous system in general, especially to the psychic functions.

The effects of colored lights upon nervous individuals are well known. This effect of light upon the mental and moral condition of individuals explains to a great degree how certain people have a longing for certain colors and exhibit it in their mode of dressing. There is on record a case of a lady physician, extremely anemic, who had a constant desire to have red clothing, while before her sickness she always wore black. Upon the restoration of her health, she no longer had the craving for red colors.

Colored light seems to exert its influence largely through the cerebral cortex, as has been proved by several experiments upon dogs. Ballini says that the quieting action of light undoubtedly in part is due to a direct action upon the peripheral nerve-endings, and is an effect of the chemical-light-energy upon the tissues and its absorption by the blood. The same writer says that the action of red light upon the brain is brought about through the eyes, and the intimate connection of the latter with the brain, through the optic nerve. Where there is exposure of large superficial areas of the body to the action of intense light-energy, there results an increased flow of blood to the superficial vessels and a decreased flow to the internal organs.

Exposure to the action of light gives rise, physiologically, to movements by reflex as well as by direct action upon the tissues of animals (sneezing, for example). According to certain experimenters, the circulation of the blood both of men and dogs is markedly changed by the irritation caused by the exposure of the eye to the energy of the green spectrum-rays. Burt found that a chameleon blinded in one eye became paler in color on the whole corresponding side of the body. Thus it is seen that the reflex action, by means of the skin and eye, effects the change of matter.

Although red is spoken of as a warm color, blue as cold, yellow as cheerful, and green as restful, yet, there is a difference in the way different people are affected—one may be pleasantly impressed by a certain color, while another is affected oppositely. This would indicate that some are in tune with certain ray-frequencies, and others, with certain other frequencies, pointing to an inherent condition in constitution.

Upon the mind of man and his consciousness, no natural phenomenon produces so pronounced an effect as does light. It not alone is physical food, but mental also. Goethe, in his "Farbenlehre," called attention to the connection between colors and certain emotions. He observed that red and yellow light-energy exercised a bracing effect, while green and blue were depressing. These same observations have been made by others. There is no question as to the influence of sunlight upon the spirit of the individual.

Influence of Light-energy

The influence of light-energy upon the respiration, pulse, and temperature has been found to be as follows: When the nude body is exposed to light-energy from a 500-candle-power lamp, the pulse dropped, while its volume was augmented in every instance. In every observation, there was a rise of temperature ranging from 1-10 to 1 degree.

Féré found that respiration was 19 to the minute in yellow light; 17, in green; and only 15 in red; and, also, that under the influence of red light the pulse becomes fuller and slower.

Our suppositions concerning the influence of light-energy upon the human organism rest largely upon hypothesis, but, judging from its action outside of the living organism as well as from its known effect upon plants and the lower animals, a certain amount of speculative theory is permissible. Its mode of action upon the skin is firmly established. The well-known physiological effects of stimuli, chemical or mechanical, in exciting either direct or reflex nerve phenomena, in relieving local congestion and influencing absorption of inflammatory products, need only to be mentioned to indicate that, if no other interpretation be offered for the action of light upon the living being, this action upon the skin offers a rational explanation of many of the phenomena produced through this agency.

The sympathetic-vagal reflexes prove in a more scientific way than any other the effects of radiant light and colors upon the human organism.

Blood Absorbs Light

It is evident that blood absorbs light to a very great extent, and in a somewhat peculiar manner. This is shown by the characteristic absorption-spectra of greenish-yellow obtained by Seyler and in the blue-violet obtained by d'Arsonval. It is further emphasized by the experiments by Freund, made by determining the degree of penetration of the ultraviolet frequencies. It has been shown by Quincke that hemoglobin gives off its oxygen more quickly in the light than in the dark. This proves that light-energy increases the oxidizing power in the living organism.

That light-energy influences the oxidation of the tissues, is the consensus of opinion, and it is generally believed that this is owing largely to a direct action upon the blood itself.

According to Moleschott, the amount of carbon dioxide eliminated is in direct ratio to the intensity of the light. This gives a rational explanation of the marvelous effects of powerful light and heat upon intoxications and any disease producing a profound toxemia.

Physiologic Effect of Light and Heat

All repair is made through the blood current; consequently, any agency that will affect the circulation may become of therapeutic value. Inflammation, which some call disease, is only the voice of Nature calling for help in conquering the enemy. Germ invasion is met by this phenomenon of inflammation, and upon the fact as to whether the individual's opsonic index be high or low depends the victory.

There probably are no more potent agencies than radiant light and heat capable of aiding Nature in this great fight. It is not antiphlogistic remedies that Nature calls for, for they really operate against the end to be attained. Radiant light and heat are truly homeopathic so far as the maxim of "*similia similibus curentur*" is concerned, but not as regards dosage. Nature can make use of large doses of this agency; but not too large, since an excess of light stimulus is destructive and paralyzing. If too much be given under the wrong conditions, we have death of tissue or impairment of function; so, judgment and skill must be exercised, as in the case with all other remedial measures.

When we gain control of the circulation, we nearly have gained control of the disturbing element. Rational practitioners no longer treat the disease, but the symptoms-complex; and on no other remedial agencies can we rely more for this than on radiant light and heat.

As far back as history takes us, primitive man used light and heat as healing-agencies. Some of the first methods and conceptions seem to us crude, but they were not any more so than are many of the medicinal means taught in some medical colleges at the present time.

Since Finsen's time, the medical profession has looked upon light from a more scientific standpoint. We all are familiar with the fact that light and heat will produce a hyperemia and, if carried further, an inflammation. We cannot have inflammation without stasis, and, to relieve the one, we must remove the other. It is not rational to expect to do this entirely by means of drugs without depressing the whole system, as is done by stimulants and cathartics.

Mechanical agencies, such as light, heat, electricity, concussion, and vibration, seem to be the most potent factors for relieving stasis, and of these perhaps light and heat are the foremost. They dilate the capillaries, enliven the circulation, open the sweat-glands, and induce active metabolism, thus restoring the circulation and instituting prompt repair. They destroy germ processes, either by killing the offenders in situ or by raising the opsonic index. Inhalation of oxygen or oxygen-vapor generated in a suitable apparatus, seems to have this same effect.

The profound effect of radiant light and heat upon the body can be proved scientifically by the sympathetic-vagal reflex.

The effects upon metabolism, local and general, are owing to:

1. Increased local activity of elimination and tissue building.
2. Diffusion of heat by the channels of circulation.
3. Increased general perspiration.
4. Increased oxidation.
5. The local action upon the blood in the dilated capillaries.
6. The effects upon the remote spinal centers, owing to stimulation of the peripheral end-neurons.

The effects upon simple inflammation are:

1. To induce relaxation of tissue, with relief of pressure and pain.
2. To increase local metabolism and elimination, so as to relieve the tissues of the products of defective metabolism.
3. To remove early stasis in conditions of mild traumatism, and to cure the condition if treated promptly after injury.

The effects in acute and sub-acute infectious conditions are:

1. Increasing local hyperemia and relatively increasing phagocytosis at the site of infection.
2. Inhibiting activity of the micro-organisms.
3. Inducing perspiration and tissue oxidation, thereby stimulating elimination.

The derivative effects when extensive exposures are made over the entire body are:

1. Lessening the quantity of blood in the congested regions.
2. Lowering arterial tension.
3. Relieving the overworked heart.
4. Eliminating of products resulting from impaired metabolism.

(*To be continued.*)

The Lumbar Misery

Chapter Three in "Lens, Reagent & Co."

By B. G. R. Williams, M. D., Paris, Illinois

Director of The Wabash Valley Medical Laboratory

MY FIRST intention was, to name this story the "Lumbar Mystery," for such it had been to several physicians. The patient, however, not only complained of the miserable sensations, but of the miserable guesses made at the diagnoses. He, in turn, had made life miserable enough for all men who had been consulted, and I think that, after all, the title is not a bad one.

Appendicitis was the first guess—that was before the man had a back. Appendicitis it was diagnosed, because of pain in the right groin, with fever and so on. But a higher fever, with abatement of local symptoms, led to the patient's being "threatened with typhoid fever," then, being assured that it certainly was typhoid fever, and finally being dismissed in ten days, with a decision of "aborted typhoid."

"Doctor, I believe I have the typhoid again," explained the man two weeks later, "and it certainly is abortion-typhoid this time; for, the pain has settled in my back." Fever accompanied this second attack.

In five successive urine-analyses routinely carried out for sick persons, nothing of diagnostic importance may be found, and, yet, in the case of the sixth patient—so great is the value of the uranalysis—the positive result may well repay the physician for the trouble taken with the other five. Many a battle is won, not in being victorious, but by avoiding defeat. A diagnostic triumph rarely gains reputation for a physician, but, rather, it is the many maneuvers, much less brilliant, that he makes to avoid errors in diagnosis. A doctor's mistake, when manifestly stupid, constitutes a more dainty morsel for the gossips than is a demonstration of his diagnostic ability and sapience.

Of course, the condition of the urine in the case cited above was eventually investigated; still, how much better it would have been for all concerned had the examination been made before the attending physician committed himself to his first stupid diagnoses. If the testing of the urine were to make up a part of the examination of every sick person, we should see fewer kidney-patients operated upon for appendicitis or placed upon a typhoid-fever regimen. In the present instance, the patient's urine showed pus. To continue the misery-part, I will say that immediate operation now was insisted upon and a surgeon was called in. But this surgeon hesitated, after having carefully looked the patient over.

"But, certainly, this is a case either of stone or of tuberculosis," insisted the patient's physician. Nevertheless, the surgeon wanted a skiagram. The patient balked (as patients sometimes do), but his misery grew so demanding that eventually he bore the expense. There was no shadow thrown by the kidneys.

"It Certainly Is Tuberculosis"

"Then it certainly is tuberculosis," concluded the physician in charge. The surgeon, still unconvinced, begged that some laboratory examinations be made.

"Nonsense!" again objected the internist; "why put this man to further expense? He cannot raise over two hundred dollars, and that barely will cover the cost of the operation. A drop of alkali added to this urine shows that pus, pure and simple, is present. This man undoubtedly has a tuberculous kidney, and it should be removed."

"Still, there is no loss of flesh," suggested the surgeon.

In many cases, operation for removal of a tuberculous kidney should be undertaken when it is fairly certain that the diagnosis is correct. Of course, if the operation shows absence of tuberculosis, the person operated upon can not be "unoperated." But suppose, as often happens, that the physician is denied operative interference after he has committed himself to the opinion that recovery without operation is impossible, the patient, nevertheless, recovers—then what? And I hasten to say that such patients often do get well without operation, even though, perhaps, tuberculous.

"Operating" did not sound good to this patient, and I surmise that he would have refused operation until miseries multiple drove him in panic to the table. Now, this patient, much to the disgust of his regular physician, caught at the suggestion of the surgeon like a hungry bass jumps for the bait, and laboratory studies were begun. What, now, was found in this urine?

Pus was present, to be sure, and it was so plentiful that it interfered with the searching for more important findings, so that several specimens were examined for casts, renal cells, and so on, that possibly might be obscured. In the meanwhile, the patient began to complain of vesical symptoms, and for a short time this so misled the physician that he was inclined to call the whole thing off, call the trouble "cystitis" and begin to irrigate the bladder. But, then, the acid reaction of the urine emphasized this error of diagnosis before the patient was taken into confidence in this latest misery.

Careful examinations demonstrated the pus to be of a polymorphonuclear type. While this proved nothing conclusively, it did seem that in a pure tuberculous infection there should be present some mononuclear cells.

Simple and special staining of smears failed to demonstrate the bacillus of Koch. Large numbers of Gram-negative short bacilli were present, and hanging drops showed these to be feebly motile.

Not Tuberculosis After All!

So certain, however, was the physician, of his diagnosis of tuberculosis of the kidney, that two guinea-pigs were inoculated. And these inoculated cavies promptly succumbed to colon-bacillus peritonitis. There, now, I have given away the proper diagnosis! I believe that the animal-inoculations were not, really, in order, for the reason that tuberculous urines apparently generally are sterile. Simple smears of fresh samples already had hinted at what might have been expected from the injections of the cavies.

Then, at last, an attempt was made to grow and isolate the colon-bacillus—but this should have been done long before. The offending bacilli were demonstrated with ease.

Now to the denouement. This sick man was *not a man, but a woman*. Of course, I should have stated this at the beginning of my story, but many of my readers would have guessed the solution before the psychological point was reached, and that never would do in a detective-story. The fact that his patient was a female inevitably should have led the attending physician to suspect colipyelitis.

A woman who has pain in the back, fever, bladder symptoms, but is losing no flesh, *may* have tuberculosis of the kidney, but only in perhaps 1 case out of 100; the other 99 should set the physician on the trail of the colon-bacillus.

Some patients with colipyelitis must submit to operation, but not as a rule. The one under consideration improved promptly under proper medical measures.

The Management of Colipyelitis

Let us consider for a moment the line of treatment most efficient in colipyelitis. To begin with, absolute rest in bed is the best of all measures. It is as important as is the rest-treatment of hyperthyroidism and of the acute fevers. It is very difficult to convince the woman that she must not scrub, iron or wash until free from all acute symptoms

Words avail nothing with the high-school miss, as a rule, so that only her growing invalidism at last compels her to "give up" and go to bed; and only then can she get relief. Shop-girls and school-teachers frequently are compelled to lay off from work, whereupon they promptly recover. However, relapses after uncommon exertion—house-cleaning, a motor-car ride, a ball—are not uncommon.

The hexamethylenamine treatment rates next in importance, and it should be combined with rest. Small doses are inefficient; 15 grains three times a day is the correct dosage.

The urine must be acid, else the bound formaldehyde cannot be set free in it (nascent); hence, if the urine is alkaline, it should be rendered acid by administering diacid sodium phosphate, which supplies the normal acid reaction of the urine. I take considerable satisfaction in making the foregoing statement now; for, I made this suggestion some two years ago and then urged manufacturers of pharmaceuticals to supply this salt for the use of practitioners. However, I was rebuked and told that benzoic acid was good enough. Now they "all are doing it"; that is, are making the diacid sodium phosphate into tablets, and are taking the glory to themselves.

Hexamethylenamine should not be given in this large dosage, though, for more than three days at a time. This leads to the question of the alternate treatment devised by me several months ago, which runs as follows:

For three days, give 15 grains of hexamethylenamine three times a day, seeing to it that an acid urinary reaction is maintained. For the next three days, leave off the hexamethylenamine, and, instead, give alkalis in sufficient dosage to keep the urinary reaction intensely alkaline (this constituting a medium almost incompatible with a vigorous growth of the bacillus coli communis). Then, during the next three days, the acid-urotropin (i. e., hexamethylenamine) treatment is again pushed, followed by the alkali course. And so on.

The alternate treatment, combined with absolute rest in bed, will effect a prompt cure of practically any case of pure colon-bacillus infection of the kidney when it has not already proceeded to abscess destruction of the kidney-parenchyma.

I devised this treatment after observing that patients, when the urotropin treatment failed, responded nicely to alkalis; and vice versa. It promises to be of some use in other urinary infections, as well as in colipyelitis; possibly in a deep-seated gonorrhea, less likely in simple urethritis.

As to the Vaccines

Vaccines are remarkably efficient—on paper. Now, I have studied quite a few cases of colipyelitis and observed the treatment, but I never have seen any benefit to come from the use of colon-vaccines. The exalted strains change immediately to the ordinary type after their removal from the living tissues. Even as certain nonpathogenic properties are promptly regained, so are other pathogenic properties (immunity-producing) lost, and bacterins produced from it vary in no way from those constantly present by virtue of the residence of the colon-bacillus in the bowel, as well as its life's activities and death in that location.

In the above case, we could not have positively ruled out surgical kidney, save as we did so by the therapeutic test. Renal tuberculosis may have coexisted (though it rarely does) with, or else have complicated, the colon-bacillus infection; this latter infection may have progressed to abscess kidney destruction or a stone may have been found, the result of a continued infection. In our case, however, the findings certainly did justify expectant treatment and the pushing of non-surgical measures. This woman (as have many others) recovered promptly under the rest and alternate-medication treatments outlined, and was spared surgical intervention.

Come to think of it, I am inclined to think that I selected the wrong title for this story, after all, for, to have cut down upon a healthy kidney would have been a real misery, indeed. This woman was so glad to have been spared the operation that she forgave the several blundering diagnoses. A portion of her kidney may possibly have been destroyed; but, I have seen some persons similarly affected operated upon, and, so, I doubt it very much. Granted that half the diseased kidney remains and is working (in spite of the original desire of the physician to remove it). We have fairly good clinical proof that every renal cell spared means an extra hour of life and health; and one and one-half kidneys are a lot better than just a single one. Moreover, when one kidney is thoughtlessly removed, the colon-bacillus infection may promptly attack the other; and then the situation becomes serious, indeed.

In this story I have told you of a surgeon who, happily, was more than a mere operator. In the next, I am going to tell you of an experience with one who was not. The subject of the next story will be, "Thou Shalt Not!"

About the Alkaloids and Other Active Principles

By George L. Servoss, M. D., Reno, Nevada
Editor, "The Western Medical Times"

TIME was, and not so very long ago, that he who even so much as intimated that he employed either the alkaloids or other active principles of plant-drugs met with ridicule amounting almost to scorn. But now, how these remedies are coming into their own! No longer is the alkaloidist looked at askance—and that simply because practically all practitioners are coming into his ranks and following his precepts.

When the alkaloids first were introduced, the majority of the medical profession offered various objections, saying, for instance, that they are "too potent," that they represent a "new school of therapeutics," that they would have to "learn the materia medica all over again," or that they involve "too much of a radical change." Many other objections were voiced against this novel active-principle therapy. It took some nerve for anyone to introduce the idea in America, despite the fact that this mode of treatment had been enjoying considerable popularity in several European countries for some years past.

But today, what do we find? Even those journals that a decade ago considered active-principle therapy more or less a joke are now giving it serious attention. Even the socalled "authorities" are taking the use of these principles seriously, and it is the rule, rather than the exception, to find them discussed in textbooks, both on materia medica and practice.

As a matter of fact, despite the earlier contentions, there is not much to be learned, new in character, with regard to the active principles—just a few names, and then their dosage (a simple matter), and that's all. The applications of the alkaloids and active principles in general, of course, are identical with those of the parent drugs, the one meeting the indications of the other.

But, as for the active principles, they serve the purpose better than do the whole-parent drugs: first, because they are pure, definite, chemical substances, not associated with other constituents of the plant, which sometimes act in an inhibitive way; second, because they invariably produce a better effect, that is, a more direct effect, than do the whole-plant drugs; third, because the control of dosage is more scientific.

"Small Doses, Frequently Repeated"

Soon after the introduction of the active principles, the system of small and frequently repeated doses was established, and this manner of using them undoubtedly has had much to do with the good results obtained. By means of this system, it is easy to keep the patient continually under drug-effect, and that without fear of overdrugging him. Also, the small, repeated dose practically has overcome that condition known as idiosyncrasy: the patient becomes accustomed to the drug, so that there occurs no drug-anaphylaxis so frequently encountered under the customary system of physiologic dosage. Another advantage is, that the drug-effect is not lost through long intervals between doses, as ordinarily administered.

The active principles have had much to do with establishing the principle of meeting single indications with single remedial agents, so that the "shotgun" prescriptions of our forefathers no longer are popular, even among those who have not taken up the positive active-principle therapy. A few years ago, practically all the textbooks on treatment were filled to overflowing (providing they expressed a belief in drug efficacy at all) with long polypharmacal prescriptions directed against diseases as a whole, and with but little regard to single indications. Today this is changed. The list of drugs given is not so long for a disease, and we are being told to treat diseases symptomatically, to a considerable extent. In other words, therapeutics today is on a more rational and scientific basis.

It has been said that we have no specifics, with possibly one or two exceptions. This probably is true, when we consider any disease as a whole; nevertheless, the practician who employs the active principles has found out many specifics for single indications. And it has been very largely through the findings of these clear-eyed clinicians that drug-therapy has become rationally scientific.

Then, there has been the insistent assertion that most of the acute infections are "self-limited" and that recovery or nonrecovery will occur regardless of any interference upon the part of the doctor; that his was merely a watchful-waiting game.

But, is this true? Have the active-principle therapists not proven the fallacy of this doctrine? I believe they have. Did you ever push colchicine to effect in rheumatoid affections and see the disease conquered in a miraculously short time? Have you ever given veratrine, with or without aconitine, to your pneumonia-patients and seen them recover as if by magic and in a much shorter time than that accepted by the "limitation" rule?

Now, let us see what can be done with the alkaloids and other active principles in combating the diseases of the season, namely, those of the heated term.

Positive Active-Principle Therapy in Hot-Weather Diseases

Cholera morbus follows the ingestion of uncooked fruits and other intestinal irritants during the summer months. Of course, the first indication is, to clear out the alimentary canal; but, as we have more or less pain to contend with, our patients demand that this be relieved. If severe, H-M-C, administered hypodermically, usually meets the indication. Or, if anything is retained by the stomach, the H-M-C modified or chlorodyne granules may be given to effect. With the acute condition controlled, the zinc and codeine compound, alternated with strychnine and hyoscyamine, not only will serve to keep the bowel clean, and thus overcome any tendency to recurrence, but acts as an antispasmodic. It is well, in most cases, to flush the lower bowel with a solution of the combined sulphocarbolates. Following the chemical antiseptics, the Bulgarian bacillus cultures work well, the lactic-acid organisms tending either to inhibit the action of pathogenic organisms or to destroy them.

Cholera infantum is another condition confronting us during the "dog-days," and it calls for prompt treatment. Hyoscyamine or atropine, or Candler's calmative should be given until we observe reaction; the effect desired being, to overcome spasm and to equalize the circulation. In these cases, the sulphocarbolates invariably are indicated, particularly the zinc salt. The latter should be pushed to full effect, following calomel, if the bowels are too active; if not, either copper arsenite or copper sulphocarbolate act well as intestinal antiseptics, but remember that they must be pushed to full effect.

To establish reaction, nitroglycerin frequently is indicated. Aconitine meets the indication if there is much abnormal temperature; if the heart flags, give caffeine. Nuclein almost invariably is indicated. It induces leukocytosis and in that way reinforces the patient. Bulgarian bacillus, either alone or with food, practically always is indicated, in that it assists in getting rid of all pathogenic organisms that may be present. Other remedies are indicated in certain individual cases; however, it is not the purpose of this paper to discuss treatment in full, but merely to indicate briefly what active principles enter into the problem.

In rabies, although the Pasteur treatment seemingly is specific in the majority of cases, sometimes drugs are positively indicated. If the disease goes on to convulsions, H-M-C and gelseminine hydrobromide, used in conjunction, not only act as anticonvulsants, but the latter reduces the hyperemia of the brain and spinal cord. Cannaboid is another anticonvulsant that has its indications. To induce leukocytosis and thus enable the patient better to combat the infection, nuclein and, to build up the nervous system, lecithin, invariably are indicated.

Sunstroke is a condition calling for symptomatic treatment exclusively. If we find the patient with a high temperature and an unstable circulation, one without balance, then aconitine, glonoin, and strychnine are primarily indicated remedies, but they must be pushed to effect. If the congestion is extreme, put the victim in the cold-pack or ice-bath; and here veratrine meets the indication, through its relaxing effect upon the capillaries. Nearly always, free purgation with elaterin or elaterium, followed by a laxative saline to effect, is indicated.

If the temperature is low and there is much exhaustion, apply cold to the head and heat to the extremities, and give caffeine and cactoid, to support the heart; and there possibly may be indication for digitalin and strychnine.

Apomorphine, 1-16 to 1-12 grain hypodermically, or lobeline sulphate, either to full relaxation, are asserted to give good results in some instances. Lobeline undoubtedly is of use in many of the congestions accompanied by spasm, and it probably will gain greater popularity in proportion as it is accorded more attention.

In thermic fever, quinine in small dosage meets the indication. Aconitine, if employed at all, should be watched carefully, as its effect upon the heart in this condition is not at all satisfactory. To give tone to the heart, prescribe digipoten or digitalin.

Diarrhea, either the simple variety produced by some kind of irritation or that associated with some other disease, is a

common condition during the heated term. Time was when the patient was given something to "lock up the bowels" and told to go, only to return to the doctor with one relapse after the other. Today, we treat the simpler forms differently. Recognizing that there is in the bowel some sort of irritant the latter is immediately cleaned out, and as completely as possible. First calomel, to the extent of 1 or 2 grains in broken doses, is administered, and this followed by a laxative saline or castor-oil *to full effect*. In some cases, this is supplemented by enemas.

Following the clearing of the bowels, the combined sulphocarbolates are pushed to full effect, or, until the bowel discharges become normal in every way. If there is either pain or tenesmus to any considerable extent, the zinc and codeine compound may replace the other sulphocarbolate compounds, or, if there is persistence of the discharge, larger doses of the zinc-salt may be added.

If there is local congestion, hyoscyamine or atropine may be indicated, as equalizers of the circulation, pushed to flushing of the skin. Not infrequently have I found a simple single dose of a laxative saline sufficient to overcome the acute summer diarrhea owing to the ingestion of some irritant food.

To restore tone to the bowel, it may be well to follow the specific treatment with juglandin, with bilein added, to increase the flow of bile. Sometimes it may be necessary to give a dose or two of H-M-C or one of its modifications, to control excessive pain. I have found that, if the bowel is cleaned out promptly and subsequently kept clean, rarely, if ever, are recurrences of the simpler summer-diarrheas seen—not nearly as often as in former years, when I still was following the old-style treatment.

Undoubtedly I have not touched upon many of the seasonable complaints, but these examples are enough to call attention to the efficacy of the active principles, even though they have to be supplemented by other drugs. They show very conclusively the specific treatment of the intercurrent conditions found in the diseases mentioned; and what holds good here likewise holds good for practically all conditions encountered by the doctor.

If the indications are known—and they should be—it is my belief that somewhere among the alkaloids or other active principles we have some remedies that will act in a specific way. Please remember, I do not say that we have many specifics for diseases in their entirety; what I firmly believe is, that we do have specifics for the *intercurrent conditions*, for my experience has shown and taught me this.

SOLSTICE

By Madison Cawein

The ant is busy with its hoard,
The bee is at its tree;
And by its nest among the boughs
The bird makes melody.
The day, reluctant still to leave,
Sits azure at its noon,
Like some sweet girl, with naught to grieve
Sighing a dreamy tune.
Oh, hark, my heart! and quit your quest!
The song she sings is one of rest.

The butterfly is on its flower;
The wasp is at its clay;
The wind to bramble lane and bower
Whispers of yesterday.
The afternoon goes to its close,
With bright attendant states,
Like some calm queen who seeks repose
Behind her palace gates.
Oh, look, my heart, your pining cease!
That way, at last, you shall find peace.

The cricket trills; the beetle booms;
The mole heaves at its mound;
Pale moths come forth like ghosts of blooms;
The firefly goes its round.
Then Eve puts off her gown of gold,
And for a moment stands
Before her couch, a lamp of cold
Moon-crystal in her hands.
Oh, heart, go follow where it gleams,
And find again your world of dreams.

The life that wakes at dark comes out;
The spider nimbly weaves;
The bat flies silently about;
The drowsy owlet grieves.
The Night goes stealing to her tryst,
Breathing a fragrant sigh;
One jewel from her starry wrist
Drops down the quiet sky.
Heart, let it be a sign to you
Of Love behind the bending blue.

The Physician's Microscope

Its Construction, Preservation, Use and Application

By A. H. Uhler, M. D., Rochester, New York

[*Continued from page 649, July issue.*]

How to Care for the Microscope

THE microscope should be kept under a glass when not in use, to insure freedom from dust. Whenever finger-marks are made on its lacquered surface, they should be wiped off at once or, after using, with a soft old silk handkerchief. If this is not done, the finger-marks will remain.

All oil-immersion objectives should be wiped and carefully dried, all cedar oil being removed before putting them away. I have seen the working distance of the oil-immersion abolished by dried oil adherent to the surface of the hyperhemispherical front lens. If this does occur, moisten with a little cedar oil and let it stand for about twenty minutes, after which a little zylol will usually remove it.

No alcohol should be used on oil-immersion objectives or on the lacquered surface of the microscope stand, for, in the first place, you may cause the front lens to drop out, and, in the second place, it dissolves the lacquer from the microscope, making it unsightly.

The optical parts of the microscope, apart from special accessories, are four in number:

The objective (object glasses)
The eyepiece (ocular)
The substage condenser
The mirror.

A Description of the Objective

I shall give a description of the first three. The objective, illustrated in Figures 24, 25, 26, and 27, is a collection of lens combinations mounted in a brass tube, the objective mount having as its upper end a male thread popularly known as the society-screw or universal-fitting. It enables the objective to be attached to the nosepiece at the lower part of the body tube, where it is in position to perform its twofold function of magnification and resolution. The first process (magnification) is well known and needs no description, but the second property (resolution) is one that is not so well understood. It may be defined as that process whereby an objective has the power to grasp more or less of the diffraction spectra emanating from the object and depends upon the size of the numerical aperture of the system.

Objectives are divided into four great classes, which are named, in order, according to the perfection of the corrections brought about by the computation, as follows:

Achromatic
Semiapochromatic
Fluorite-systems
Apochromatic.

These in turn may be *dry*, *water-immersion* or *oil-immersion*, and may be *fixed* in their mounts or *adjustable* by means of a correction-collar. Rarely other immersion media are used, as oil of anise, monobromide of naphthalin, chloride of tin in glycerin or pure glycerin, but practically all of these have fallen into disuse at the present time.

An achromatic objective is one that is corrected for primary spherical observation, secondary spherical aberration for the selected color and coma. A semiapochromatic is corrected for all of the above and spherical aberration for a second color and as well as possible for all colors. It gives equal magnification for all colors when a compensating ocular lens is used.

A *fluorite system* is corrected for all that the semiapochromatic is, and in addition it shows a considerably greater reduction of the secondary spectrum and a greater concentration of light in the image, due to the excessive transparency of the fluorspar used which passes more light.

The apochromat has all of the corrections of the preceding save that the secondary spectrum is, in this case, practically eliminated, i. e., the secondary spectrum is reduced to a point where it is practically invisible, a tertiary spectrum only remaining in some cases. The visual and actinic foci are also concentrated on one and the same point, which makes them invaluable for photomicrography.

It may be said for the benefit of intending purchasers that the prices for the different kinds of objectives as a rule vary in the following ratio:

Properties Possessed By All Objectives

Achromatic	Semi-apochromatic	Fluorite-system	Apochromatic
2-3 $6.00.....	$15.00	$18.00	$30.00
1-3 Not made..	8.00	18.00	32.50
1-6 Not made..	12.50	20.00	40.00
1-8 Not made..	12.50	26.00	45.00
1-12 $25.00 (1.30 N. A.)	40.00	54.00	100.00
1-16 Not made..	40.00	60.00	110.00

There are certain properties possessed by all objectives; they are as follows:

a. Numerical aperture, abbreviated thus, N A.

b. Working distance.

c. Focal distance synonymous with initial magnification. We say this because a certain definite amount of one being present indicates a corresponding amount of the other.

d. Real field.

e. Cover glass correction.

f. Depth of focus dependent upon N A, initial magnification, and the like.

The numerical aperture of an objective is a mathematical expression originated by Prof. Abbé, represented by the formula N A—=Asine k., where A represents the refractive index of the medium intervening between the objective front and the upper surface of the cover glass and k, one-half the angle of aperture. Or, N A may be spoken of as the ratio of the semidiameter of the exposed portion of the back lens to its focal length. Upon the size of the N A depends the extent of the resolution of any given objective. And the size of its N A is usually an index of its price, the larger apertured objectives being more expensive.

The Working Distance

The working distance is the distance between the lower surface of the objective, be it the front hemisphere or the mount at its periphery, and the upper surface of the cover glass for which the objective is corrected, usually 0.17 mm. when the objective is in focus on an object which is practically infinitely thin, and in optical contact with the lower surface of the cover glass, the correct tube length being employed. In a 4-mm. dry objective of 0.75 N A intended especially for use in examining sections of tissue and blood-counting with the haemacytometer, a millimeter of working distance should be required. In fact, if a 1-12-inch (1.8 mm.) oil-immersion objective is being used, the 4-mm. dry objective with this long working-distance should always be used to the exclusion of the higher apertured combination, as these high-apertured dry objectives do not work well with critical light, nor do they have so brilliant a definition as their lower apertured competitor.

Further than this the writer is at a loss to know why a true quarter dry-objective should not be employed with a little larger aperture, say 0.82 N A, in place of any of these sixths and yet with a good long working-distance. I fear some of our good physicians in the past have deceived themselves, thinking by the employment of the sixth they would have a greater revelation of detail. However, a moment's thought will show that this is not the case. Therefore, I suggest the substitution of the 6 mm. in place of the 4 mm., which could be made at less cost.

Fig. 24. A low-power objective.

Focal distance is the distance compared with that of a simple lens of the same power. A 1-2-inch objective on a 10-inch tube yields 20 diameters; a 1-3-inch, 30; a 1-4-inch, 40, and so on. A 1-2-inch objective on a 160-mm. tube would yield an initial power of 13 diameters. So the tube-length regulates the initial power of the objective as well as its focal length.

The Field of an Objective

The real field of an objective is represented by a small circular area of the object which is included in the image during observation. In low-power photographic objectives we probably have the largest real field, and this is the reason why the best photomicrographic stands are equipped with large body-tubes, so they will not impinge on the real field of the objective, thereby reducing its diameter. All objectives are corrected for a definite thickness of cover glass, usually 0.17 mm., as in the case of the homogeneous immersions. If the objective is in a fixed mount, it should always be used with the cover for which it is corrected, otherwise one might just as well buy a poorly corrected objective, for its definition will be ruined. I do not recommend a correction collar any longer, as it always wears loose, sooner or later, thereby decentering the combinations, causing a more or less one-sided blur to the image. I would suggest that high-power apochromats should be mounted fixed, instead of adjustable, as is usually the case.

Depth of focus (or depth of definition, as it is sometimes called) is of great use in an objective where sections are to be examined which have been cut rather thicker than they ought to be. As the majority of all sectioned histological and pathological specimens have this defect to a more or less pronounced degree an objective with considerable depth of definition is a real necessity. The smaller the N A and the initial magnification, the greater will the penetration of the objective

be, and it is well to bear this in mind when purchasing a lens.

The Homogenous Immersion Objective

In regard to the homogeneous immersion objective little need be said; it is so well known to most bacteriologists. We will say, however, for the benefit of those who do not know, that the best is that patterned after the German formula. These are made by Zeiss, Bausch & Lomb, Spencer Lens Co., W. Watson & Son, Reichert, Leitz Himmler, Winkel; and (according to my own tests) they are the finest oil immersion semi-apo-chromats in existence, only being exceeded by the oil immersion by fluorite-systems, Winkel, Zeiss, Himmler, Bausch & Lomb Optical Co., Leitz, M. Seibert and Voigtlander. The last named objectives are so perfect that it is not any easy matter to tell them from the finest apochromats, especially when a compensating ocular is used.

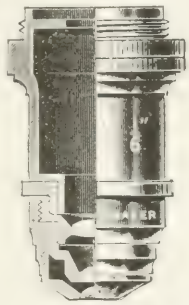

Fig. 25. Construction of 1-6 objective.

There are three kinds of homogeneous immersion objectives made at the present day. First, a low apertured semiapochromat of 1.25 to 1.27 N A, selling for about $25.00. Second, a semiapochromat of 1.30 to 1.34 N A, for about $40.00. Third, a large apertured semiapochromat of 1.37 to 1.42 N A, for about $60.00. I must warn physicians that there is an American-made oil-immersion objective on the American market at the present time which sells at a low cost, but which shows all the defects that an objective is heir to, and it is usually attached to a stand of the same poor workmanship. I know many physicians who have purchased these only to find how inferior they were and how little satisfaction they gave. The writer will be pleased to mention the name or names of optical experts who can test objectives and who will give an unbiased judgment, for suitable compensation, of course. In a case of this sort I would recommend experts whom I know to be perfectly competent and who are recognized all over the world by eminent scientists.

Eyepieces or Oculars

The names of eyepieces are legion, but only a few are used at the present time. Those used most, in the order of their merit, putting the best first, are: Watson's Holoscopic (variable compensating eyepiece), Compensating, Orthoscopic and Huyghenian. The latter is the eyepiece usually found, but it should be recollected that it does not work well with semiapochromats with an N A of over 0.70, and not at all well with apochromatic objectives. It also has a very unpleasant near eyepoint, especially in the high powers.

On the contrary, the Watson Holoscopic leaves nothing to be desired when used with all kinds of objectives, and I can strongly recommend it, as it is a little cheaper than the compensating variety. I would even recommend it to take the place of these. The sooner all makers get to making this type of ocular the better it will be for all hands concerned. The holoscopic, being an improved compensating eyepiece, when used with the objectives, as recommended above, flattens the field and destroys color very greatly and especially in the extraaxial portion of the field.

There are four standard sizes of eyepieces in use at the present time (or maybe I should say one size that is almost universally adopted) and three other sizes that are occasionally used, especially in Great Britain. The one so universally adopted and often spoken of as the standard diameter of eyepiece is the Royal Microscopical Society's No. 1, its outside diameter being 23.3 mm. (.9173 inch), and it is known as the Standard Continental diameter of eyepiece, because Germany adopted it even before it was accepted by the Royal Society in the year 1889. The other eyepieces have diameters as follows:

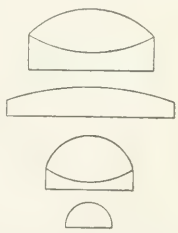

Fig. 26. The lenses in the objective.

No. 2.....26.416 mm. (1.04 inch)
No. 3.....32.258 mm. (1.27 inch)
No. 4.....35.814 mm. (1.41 inch)

For further particulars of these eyepieces probably the best account will be found in Dr. Edmund J. Spitta's work on "Microscopy" for 1909, published by John Murray, Albemarle St. W., London, England.

Substage Condensers

Substage condensers are divided into four great classes, as follows:

Dry and oil immersion, N A 0.20 to 1.40..... { Chromatic, Achromatic, Aplanatic, Apochromatic

The Abbé condenser is an immersion condenser of two and three single lenses usually

with numerical apertures of 1.20 and 1.40, respectively. Its aplanatic aperture is quite small, usually being only 0.65 in the best. A condenser is practically like an objective turned upside down, which is the way it rests in the substage when in use.

Next to the Abbé condenser in point of value is the aplanatic. It gives a great and perfect concentration of light on the object and has an aplanatic aperture which is practically the same as its full aperture, and herein lies its value.

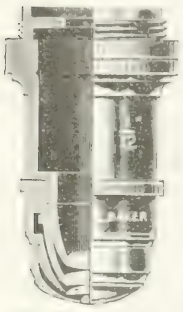

Fig. 27. High power objective.

The achromatic condenser is next best and yields practically a perfect aplanatic cone in every way. It has not yet been exceeded entirely by its rival the apochromatic condenser, as it is called, due most probably to the fact that the achromatic is so perfect. The only good to be derived from the apochromatic is that the fluorspar used in its construction eliminates the secondary spectrum, and it is a disputed point whether this is of any advantage or not.

Doctor, if you are not in too much hurry we would advise you on dark days, when artificial illumination is dim or the sky is gray, to immerse your condenser in cedar oil before bringing it in contact with the under surface of the slide. You will then see what an immense increase in illumination you have. Why buy a condenser and not work it to its utmost capacity. Further than this, if you have a high apertured oil immersion objective, of say 1.37 N A, and you do not immerse your condenser, you are practically changing your objective to a cheaper one worth $22.00 instead of $52.00, the price you paid for it, as you are only utilizing 1.00 of its N A, when you should be using 1.35 N A at least. For bacteriology this is a great mistake, as bacteria show up best when the full or almost full aperture of the condenser is being used, which is only the case when in oil immersion contact.

In working with the microscope the instrument should be at a convenient height. If the stand is used in the vertical position, bring the back toe of the foot as close to the edge of the table as possible. Do not forget to use the proper tube-length. The eyepiece should be gently lowered into the upper end of the draw tube. Its lenses are previously cleaned with an old soft silk handkerchief kept for the purpose; the user's handkerchief should never be used. Attach the objective holding the male thread into its female socket, rotating in a left-hand direction until a click is heard, when the direction of rotation is reversed and the objective is screwed home—not so tight, however, that it cannot be removed easily.

The slide with object upon it is now placed beneath the spring clips and centered as far as possible. The object, say a giant cell in a tubercle, is then examined with a low power, say a 2-inch objective which has a large real field. It will probably be seen toward the margin of the field. The giant cell can then be brought to the center of the field and preferably a quarter or a sixth objective substituted, when the cells and nuclei will be plainly visible. High eyepiecing can then be resorted to, and if this does not show up sufficient detail the oil-immersion objective can be used.

In using the oil-immersion objective a drop of cedar oil is placed on the cover and the objective lowered until it drops into the oil. Then focus up with the fine adjustment until the image is sharp and clear. Throw the iris-diaphragm wide open, focus the condenser after immersing it if needed. The object will probably become lost in light. Therefore, diaphragm down to the proper point, i. e., where most detail seems to be disclosed. Remove the eyepiece and look at the back lens of the objective and you will see a disc of light covering seven-eighths of the middle part of the lens, that is if the objective is a good one, as that of Carl Zeiss or Bausch & Lomb new Fluorite oil-immersion objective, for instance. Never look into the microscope facing you. Always have its back toward you.

Some day if the good editor sees fit I may write an article on testing objectives, or photomicrography.

The Story of a Head-Hunter

By Thomas E. Moss, M. D., Kevil, Kentucky

EDITORIAL NOTE.—During his years of service as surgeon in the Philippine Constabulary, and as a health officer in northern Luzon, where he came into intimate contact with the savage tribes, Major Moss learned to know the head-hunting people as few men do. This story is a record of actual happenings, though told in fiction form.

[*Continued from page 642, July issue.*]

Dread of Vengeance Kills Pedro

DOWN across the prairie, in the town of Malilie, a tragic scene was being enacted. Pedro Sanchesmirro was dying. The life he had led since the murder of Kalipowan had been too much for him and had made of him a nervous wreck; for, he had lived in constant fear of death at the hands of the Kalingas, who, he knew, would wait for him for a hundred years, even to the third and fourth generation, for that is their law. Pedro could not rest; he never left the house after dark, nor even went to the outskirts of the town to visit his fields without a large body-guard. In every dark corner he could see a lurking Kalinga and every shadow took on the form of Kalipowan. Pedro could not know of the plight of Aguilan and could not understand why no attempt had been made upon his life; for, he knew well enough the law of the Kalingas, which binds every son to avenge the death of his father or other member of that family. Hence, this delay only served to increase the worry and dread of Pedro, for it only made it the more certain that the revenge was coming.

When Pedro found that he was dying, he was glad that it was so, for he at least would find security in the grave. So, calling Ortagar, his only son, he drove all the other members of the family out of the room and made Ortagar come close to the bed, and then confessed to him all the horrors of his life.

He also gave him the keys to his money-chest, and told him to send word to Aguilan that he, Pedro, was dead and that he, Ortagar, would pay the blood-debt with money, thereby escaping the sure fate which would find him sooner or later, because he must pay the debt of his father with his life if he did not pay it in money. Such is the law of the Kalingas. Ortagar took the keys and promised he would do as Pedro said. Pedro lingered but a few days more, then was buried in a Christian grave, with his head on his shoulders—which would not have been the case had he lived, for Aguilan was fast gaining back his strength. A savage's vitality is wonderful. Aguilan had received enough wounds to have killed at least three Christians. When Aguilan had recovered his strength, the old chief called the people of the town and held a council; he told the people that he was growing too old to fight any longer, and they must choose another chief. Thereupon they chose Aguilan, in recognition of his bravery shown in defending the pass.

Aguilan begged that someone else be made chief, for he desired to devote the remainder of his life to the avenging of his father's murder, but the people would not hear to this. Then Aguilan named a sub-chief, to act in his absence, which he estimated would be long, for he did not underestimate his chances against the Christians in carrying out his scheme of vengeance.

Aguilan and Ortagar

Ortagar, the son, became the head of the house after Pedro's death, and, being of a dissipated, gambling nature, he soon forgot his father's admonition regarding the Kalinga's vengeance. Then, one morning, he found on his doorstep a little bamboo-stick on which was carved every detail of Pedro's foul dealings. Now he knew that death had passed close to him in the night.

Ortagar at once formulated a scheme whereby he could get Aguilan out of the way and at the same time keep the money which was to have been his ransom. He sent word to Aguilan that he was very sorry that Kalipowan had been killed by Pedro, his father, and that he was more than willing to pay the blood-debt in money, jars, and cattle, and that, if Aguilan would come to the town of Malilie, he would pay him. He dwelt long on the description of a certain jar which would be in the collection of things that would go to pay the debt, saying that it was a jar so old that no one knew where it came from or how old it was. He believed it was brought to the islands by a Chinese trader some two hundred years ago, that it was covered with figures of great beauty and such age that he did not know what they meant, but that most probably he, Aguilan, would know. Ortagar knew well the fascination such a jar would hold for the Kalinga and hoped to trick Aguilan into his power by it.

It was arranged that Aguilan should come alone and meet Ortagar a mile out on the prairie, to talk over the blood-debt and fix the amount that would satisfy him for the death of his father. This was carried out. Aguilan agreed to come again the next day to the same place and get the jars and money; the cattle to be delivered at the foothills, by Ortagar's servants, within a week's time. The meeting-place out on the prairie was near a little stream upon the banks of which grew a thicket of bushes. This place had been selected by Ortagar because in this thicket he could hide his police, Ortagar having become presidente after his father's death. Thus the trap was perfected.

The Kalingas, as has been seen, are spirit-worshipers; they see in every tree and rock a spirit; even the birds talk to them. So, when a headhunting party goes out on the trail, if they see a crow flying toward them, they immediately turn back, believing it to be a sign that bad luck will follow them if they persist in the expedition. If a certain kind of bird, called "palewah," is heard to call ahead of them, they believe it is the spirit of one of their dead friends telling them that an enemy is lurking ahead of them.

The "Spirits" Warn Aguilan

On the day agreed upon, Aguilan came to the meeting-place, but as he neared the thicket mentioned he hesitated, seeming to feel that everything was not as it should be; however, look as hard as he could, he could not see anything suspicious, for Ortagar had hidden his police with extraordinary cunning. The police never moved a muscle; if they had, the sharp eyes of the savage would have seen them. Aguilan could see the pile of jars and things which the cunning Ortagar had placed in full view. It seemed that Aguilan would share the fate of his father, for he had reached the farther end of the thicket and was coming slowly toward the fatal spot. However, the spirits had not forsaken him, for at that moment a little palewah uttered its shrill cry of warning. Aguilan never hesitated a second, but darted away on the back track to the mountains, with the bullets from the revolvers of the police whistling past his head and the whole pack in full cry at his heels. It did not take the savage long to outdistance his pursuers, for he could run like a deer, while the police were not able to follow him.

Ortagar raved and tore his hair, and beat the police with his cane until they begged for mercy, saying it was not their fault that Aguilan had escaped, since they had obeyed instructions to the letter and that, if he had allowed them to carry rifles instead of revolvers, they would have killed him. Ortagar knew that, if he had armed his police with rifles, the senior inspector across the river from where the soldiers were stationed would have heard of it and caused an inquiry into the reason for an armed expedition. The senior inspector was an American, and Ortagar knew that, if he went to the soldiery, he would get plain justice, after a thorough investigation had been made. An investigation was about the last thing Ortagar desired; still, the thought of the soldiers had given his fertile brain an idea, and he at once hatched up a new scheme by which he hoped to get rid of his enemy, realizing that he had lost his last chance to escape death at the hands of the savages, that Aguilan would spend the rest of his life in hunting him down to his death.

Early the next morning, Ortagar went across the river to the barracks and requested an interview with the senior inspector. Entering the office, bowing and smiling, with exaggerated politeness, he told the inspector that Aguilan had threatened to kill him, and produced the little bamboo-stick to prove that Aguilan had slipped up to his house during the night and, failing in getting an opportunity to kill him, had left the stick as a warning of the fate in store for him. He then asked that a detachment of soldiers be despatched to Aguilan's town and arrest him. Ortagar had figured that, if he could get Aguilan into jail, he could have him poisoned.

The inspector listened attentively to the story, but, knowing Ortagar's reputation and also the customs of the Kalingas, he felt that Ortagar had doublecrossed the other. Hence, he told Ortagar he would have to work out his own salvation; that his duty was not to see that the municipal laws were obeyed, but to keep down outlaws and cattle stealing among the Filipinos, and to break up the custom of headhunting among the mountain-tribes.

Notwithstanding the refusal of the official, the soldier idea still stuck in the head of Ortagar, who went back to town and had one of his henchmen make fifteen uniforms as nearly like those of the soldiers as he could. In these uniforms he dressed his hunters, gave them rifles, and sent them to Dusepan, the town where Aguilan lived. The people of Dusepan were used to seeing patrols of soldiers come to their town once a month; consequently, when they saw the counterfeit soldiers of Ortagar coming, they did not

suspect anything wrong. These soldiers had been thoroughly schooled by Ortagar, so, after entering the town, they pretended to inspect it and, by maneuvering around, drew the attention of most of the inhabitants to that part farthest away from Aguilan's house. To the latter, two of the "soldiers" had been detailed, and these went to the house of Aguilan, pretending to inspect the place. They called Aguilan outside, and, when he came down the little ladder, used in place of steps, they shot him dead. Aguilan's wife, seeing this, shut the door, but it was soon burst open and she was stabbed with a bayonet, falling mortally wounded to the floor. As soon as the men had finished their bloody work, they left the town as quickly as possible, making their escape by shooting, thus keeping the inhabitants back, for the savages have no guns.

The Blood-Feud Goes On

As soon as the invaders had left, Aguilan's wife crawled over to the corner of the room where she had hidden her son under a pile of rice-straw. She took some blood from the body of dead Aguilan and with it made the death-sign over the heart of the boy and made him swear to kill Ortagar and as many of his companions as he could.

This boy, Dacayon, was 12 years old when he saw the men kill his father and mother, as he lay peering out, with fierce eyes, from under the pile of straw. During the next six years, Dacayon herded buffalo in the foothills and followed the deer and wild things of the forest. He would watch the doe and little fawns as they moved through the forest or started up at his approach; he would talk to them and tell them his troubles. One time he found a little fawn whose mother had been killed by hunters; he gave it some milk which he took from a buffalo cow in his herd and made it a bed of leaves and grass. Dacayon always carried the great war-spear of Kalipowan, besides his own barbed hunting-spear; he never killed any of the wild-things unless he was hungry, and then only enough to supply his wants.

Many times he would see the hunting parties from the Christian cities when they came to the foothills to hunt. He would lie concealed and watch them, and sometimes when none of the party had guns he would slip up near them, always keeping concealed, but going as near as possible without being detected. This was no little matter, for many of the hunters were schooled in the forest's ways and were always on the lookout for savages; but, knowing all the little game-trails, he could at all times manage to evade being seen.

Dacayon had grown to be 18 years old. He had attained a powerful physique, was standing almost six feet, with powerful shoulders and massive head, and from constant exposure to the sun and weather he was very dark, almost black, with skin which shone like ivory; his muscles rippled and waved as his lithe body moved like the silent tread of a panther. The great wide-bladed war-spear of Kalipowan and his own hunting-spear were like feathers in his powerful hands; he could drive the barbed hunting-spear through the hide and flesh of the toughest wild boar and pierce its heart. The great war-spear was never used, but was kept sharp and bright, that, when the fatal moment came, he might make his peace with the spirits of his murdered dead.

Dacayon had now reached the time of his life when he thought he was able to cope with any antagonist, and he knew that the time had come for him to take the head of Ortagar, whom he had seen many times as he hunted (for, Ortagar had inherited his father's fondness for hunting) and who, thinking all danger from the Kalingas had passed, came frequently to indulge in the sport.

Ortagar's Fated Hour

The town of Malilie was in gala dress, for it was the week of the great festivities given in honor of the town's patron saint, when all was gaity and pleasure. All the high officials from the surrounding towns had come to meet and celebrate, dancing every night and horse-racing every day, with the never-failing delight of cockfighting.

Ortagar's house was full of guests, and, to add to the occasion, a deer- and buffalo-hunt was suggested. Plans were made to go well up into the foothills on the morrow. The servants, beaters, dogs, and hunting-ponies were sent out and everything was arranged so that the guests would find things prepared for them when they arrived at daylight.

The next morning, at 2 o'clock, Ortagar and his guests started for the place selected and arrived at dawn. Ortagar and his friends were placed on stands half a mile back from a strip of forest into which the dogs and beaters had been sent to drive out the deer and buffalo. Most of the guests had been placed in trees, well up out of the way of the wild buffalo, which are very dangerous, for they at once attack anyone who is in their path when they rush from the timber.

Ortagar, being an old hand at the business and being mounted on the fleetest hunting-pony in the land, had taken up a position of vantage on a little plateau upon which grew a few stunted trees. He was three-quarters of a mile back from the timber and the rest of the party. He had taken this place, for the best game-trail led up out of the forest onto this plateau; from which it ran on up into the high mountains. Here was fine ground for the pony to run over, which is very necessary for a hunter who is armed only with a lance, as was Ortagar. The guests in the trees were armed with rifles and shot-guns, and Ortagar wanted to show off and kill more game with a lance than they could with guns.

When Ortagar's servants had arrived the previous evening, Dacayon had seen and recognized them, and had slipped up to their camp after dark and listened to them as they talked. He had heard Ortagar's name many times and knew that he would come the following morning. So, he prayed to the spirits of his dead that he might have success on the morrow.

Ortagar Follows the Buck

As the guests and Ortagar took up their positions, the sun burst over the rim of the crater of the old volcano and flooded the country with its dazzling light, presaging a most beautiful day. Soon the hunters' cries of "venao" (deer) rang through the forest and a big buck bounded into sight and made for the little plateau where Ortagar was stationed upon his pony, concealed behind the low trees. As the deer topped the rise of the plateau, Ortagar's pony sprang forward and soon was close to the fleeing animal, not three-spears' lengths behind. But this was a seasoned buck in his prime, with great antlers, which he had carried for years, with which he had won many battles and defended his doe and little fawns. He seemed to know that he must use all his powers in this emergency and, so, held the distance for more than two miles, straight across the plateau and up the slope toward the great towering walls of the extinct volcano.

Urge his mount as he would, Ortagar could not gain on the fleet buck, neither could the latter increase the distance between himself and the gleaming lance-head in Ortagar's hand. The buck's breath was coming in gasps, his brave heart was pounding as though it would break, his eyes were beginning to blur and he could not see how to follow the well-known trail which had led him to safety so many times; he seemed to see the doe and two little fawns which he had left down in the forest as he drew the dogs away from them in another direction; he wondered what they were doing there now in front of his fast-glazing eyes; for, was he not giving his life to save them, and had he not taught them always to take the back track as he led the dogs away in another direction?

But they could not go back now, for behind him a thing was thundering. Why did they not run on up in the mountains? Why did they lie there in front of him by the side of the trail behind that little bunch of grass? Did they not see the narrow knifelike head of the lance behind him? His heart was breaking, he could go no further, only a few steps and he would see the beautiful sun no more, but with his last heart's throb he would reach them, his doe and the fawns, and die where they lay.

But, no, those were not the forms of his dear ones; that was a different spear-head, and so much larger than the lance-head behind him; and it was to the side of his path and not aimed at *his* heart! How strange! Anyhow, it did not matter. *He* had to lie down. But, why did the great war-spear slip past him and bury itself in the breast of that pony, the shaft snapping as the pony stumbled and fell? And how curious to see a barbed hunting-spear flash as it passed through the body of the man as he rose from where he and the pony had fallen. What great, tall form was that which was standing over him now, the form which but a moment before had been the bodies of his loved ones? And what had become of *them?* He must go back and find them as soon as his heart would stop jumping and be quiet enough for him to stand on his stiff legs.

The End at Last!

Oh, yes, he could see a little better now; it was his friend Dacayon, whom he had seen so many times down in the forest. Yes, it was he, for now he was helping him to get upon his stiff legs; he was so thankful and would go on now, as he felt a little stronger; he could hardly move, but would look back for a moment to where his friend stood. Now, of all queer things, was it the head of the man who had ridden so hard after him trying to run him through with the lance?

It was the head of Ortagar which Dacayon held in his hand!

Beauty in General

And the Tip of the Nose in Particular

By Ralph St. J. Perry, M. D., Minneapolis, Minnesota

EDITORIAL NOTE.—Here we have another of Doctor Perry's interesting papers upon cosmetic surgery—one phase of it. The doctor is showing us how much can be done to make even the ugliest face passably attractive. This is a branch of surgery with which every physician should be familiar.

[*Continued from page 634, July issue.*]

Deviations of the Tip

DEVIATIONS of the tip only (Fig. 35), the deformity lying within the septal cartilage, may result from distortion of the cartilage itself or from cicatricial contractions that draw the tip to one side. If the former, the cartilage may be cut through, subcutaneously, in such a way as to permit of straightening, and then splinted in place until union has taken place. Such deformities should be slightly overcorrected. If owing to a cicatricial contraction, the cicatrix should be loosened and the raw surfaces grafted over; or the entire scar-tissue may be dissected out and replaced by a graft of normal skin.

FIG 35

Abscess of the septal cartilage almost invariably is followed by a falling of the tip of the nose, giving rise to a deformity called "*frog-nose*" (Fig. 36), also "néz canis" and "flocke nose." This same condition may also arise from congenital defective development of the septal cartilage or from deflection or "buckling" of the lateral cartilages following injury. Where the septal cartilage alone is involved, other tissues being normal as to quantity, the treatment consists in dissecting or cutting through the deep tissues subcutaneously, so as to form two flaps as shown in Figure 38; the tip is then elevated and held in its proper position while the surgeon fixes it by bringing together the flaps and suturing them in place.

Where the tissues do not possess sufficient stability to maintain the erect position, they may be supported by inserting a buried spring-truss of tungsten wire before suturing the flaps in place; or, the truss can be inserted, if need be, by a second operation at a later date. Kyle's nasal splints or Simpson's nasal tampons are placed in each nostril, and left there for several days, in order to maintain complete apposition of the flaps and to establish the form of the nose. The metal splint is preferable, as it can be shaped to suit and permits breathing through the nostrils. The final result is a nose of natural shape (Fig. 37).

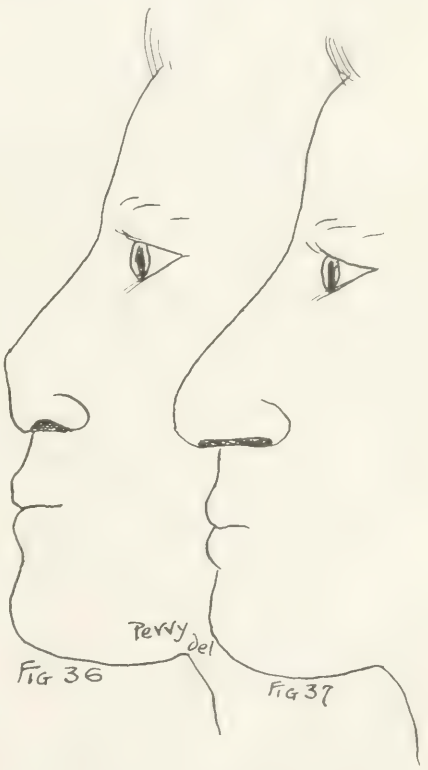

FIG 36 FIG 37

A few other defects: Perforations or fistulas of the alæ are closed by means of small skin flaps transplanted from the nearby regions. Marginal defects, if minute, are

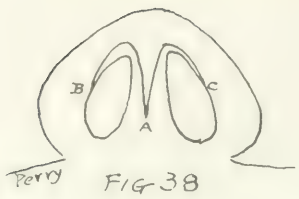

FIG 38

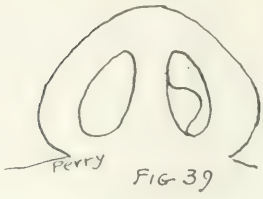

FIG 39

Abbott's dermal solvent. A cutaneous horn must be excised and the base cauterized.

The shape of the tip of the nose depends greatly upon that of the lower lateral cartilages. In collapsed alæ (Fig. 40), these cartilages have taken on a concavity, and the condition can be remedied by subcutaneously cutting the cartilage into strips, manipulating them into proper form and holding them there by means of suitable nasal splints until union has taken place. Not only for collapsed alæ is this operation available, but it can be employed in giving the alæ any desired shape, the narial splint being patterned to suit, and a conforming and coapting external splint being applied to force and retain the sectioned cartilages in place pending union.

The form of the tip of the nose (and nostrils) can be modified to suit the desires of the most fastidious. Figures 41 to 51 show operations intended to remedy, respectively, a too broad base of the rip, a bulbous lobule, a too long lobule, a too small lobule, and a too wide tip. An elevated tip may be consequent upon a surplus of the soft parts or upon a too prominent anterior nasal spine of the superior maxilla. In the former case, suitable excision may be made (Figs. 44 and

remedied with the aid of paraffin-prosthesis, and by grafting, if large. Enchondromata (Fig. 39) are to be excised, the same as elsewhere, the incisions being made in places

FIG 40

where the resulting scar will be as inconspicuous as possible. Warts, cornua, and similar excresences are quite often encountered about the nasal tip. Warts can be removed with nitric or chromic acid or with

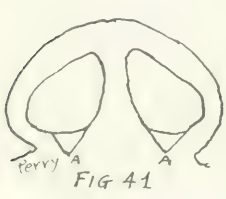

FIG 41

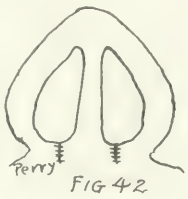

FIG 42

FIG 43

FIG 44

FIG 45

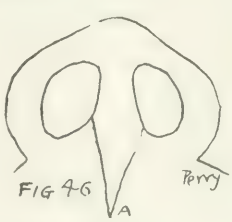

FIG 46

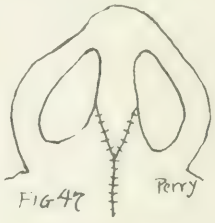

FIG 47

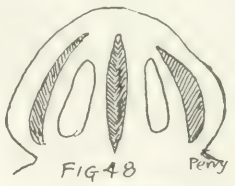

FIG 48

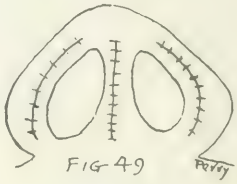

FIG 49

FIG 50

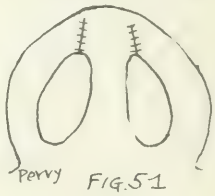

FIG 51

45), while in the latter the excess spinous process can be cut away under the upper lip.

The angle formed at the junction of the septum and the lip frequently is unsightly This defect can be corrected by changing the plane of the narial opening or by excising such redundant portions of the soft tissues as may be needful and helpful in establishing an esthetic contour. Occasionally we meet with a defective attachment of the two lateral cartilages where they meet to form the subseptum, and here we have a condition termed "split nose," because of the deep groove or sulcus in the median line. This disfigurement may be remedied with paraffin-prosthesis.

An Old Doctor's Life Story

An Autobiography

By Robert Gray, M. D., Pichucalco, Mexico

EDITORIAL NOTE.—This article is the sixth instalment of Doctor Gray's autobiography. Every physician should read this intimate record of the unfolding of an unusual life. Doctor Gray was born in the Old South, was educated in France under the old regime, fought through our Civil War on the Confederate side, and soon after its close plunged into the very depths of tropical Mexico, where he has spent the greater portion of his romantic and adventurous life. Now, at the age of eighty-five, he has given his story to the world through the pages of "Clinical Medicine."

[*Continued from page 612, July issue.*]

In vain my lyre would lightly breathe
The smile that sorrow fain would wear,
But mocks the wo that lurks beneath,
Like roses o'er a sepulchre.

DOLEFULLY the poor whippoorwill chanted her monotonous plaint, as she flitted along the road in front of me, while the freshening morning zephyrs pathetically murmured their tireless lullaby in the boughs of the tall pine-trees, as the road turned sharply from the forest, to bear down upon the ancient homestead. The stars were beginning to fade out low down the eastern horizon, but still twinkled brightly in the dome above, as I turned a sharp corner of the plantation, expecting to see my mother's matin lamplight through the latticed window-blinds, the beacon welcome to my home-coming —but only the tall forbidding black chimney-tops looming heavenward met my gaze.

The same chill that came over me from the icy breath of the war-cloud in the gray dawn that last morning when I departed the new plantation seized me with redoubled violence. I dismounted, having mastered myself in a trice, and stood on the desolate site of the old homestead and sought with eager, searching eye, but discerned nor fowl, nor beast, nor fence-rail, nor any token of the impress of human life on the vast estate. At last, over yonder, at the foot of a little hill, I saw a weird flickering light where, I remembered, there once was a broad shelving rock. Tying my horse, I stealthily proceeded afoot toward the light, and when I came quite near a quivering voice struck a sweet musical note, and, as I harkened, there softly floated toward me on the morning air this strain:

And I miss the soft clasp of thy hand,
Thy breath warm on my cheek,
And I still keep listening for the words
Thou nevermore mayest speak.

As the voice hushed, I went forward, and there, in the dell of mountain woodland, near the lone road, found my old black mammy. When she saw me coming, her greeting was, "An' Mars Rob iz cum home ter die!" Then she told me how my mother and two sisters and my Carrie had died of diphtheria under that rock during the past month; and the poor men, back in the pine-woods, had come and buried them, all in a row, in plain coffins, up yonder in the family burying-ground. She told me the Yankees drove all the negroes off before them, except herself and old Sol, who had hid in an apple-house under ground, back in the orchard; that all the clothing and bedding were burned in the houses and nothing left to eat; that Carrie's mother died before any of my own family; that I had no kindred alive, all the men having died in the war; that the few women had left, because all the houses were burned; that my aunt Rhoda still was living, away yonder where the houses were not burned, but that her husband and two sons were killed in the war. These staggering stories told, Aunt Jamima shared her humble breakfast with me, with the dignity of a queen; and she was, truly, the queen of the Gray estate.

Ere it was more than fairly daylight, I was in the cemetery-place, standing at the foot of the grave of Carrie, on which the sods of the valley were not yet dry; and I found myself repeating the words of the poet:

> The all of thine that cannot die
> Through dark and dread Eternity
> Returns again to me,
> And more thy buried love endears
> Than aught, except its living years.

Aye, and I seem to hear the echo of those words in the stillness of this lonely night, as I have thought hearing them so many, oh! so many times since that sorrow-laden morn, whatever the circumstances.

Turning quickly from the doleful scene, I returned to my black mammy and implored her to go to live with my aunt Rhoda; but this she refused to consider, for, she said, she was going to die under that same rock and wanted to be buried at the feet of my mother and Carrie, where the ground had been staked off by her. So, I told the faithful old soul that I was going to ride over to the town, a few miles away, and see what disposition I could make for her, lest the surely impending destitution befall her, well knowing that I should never see her more.

Before the sun had been veiled by the western horizon that fateful day, I had signed a quit-claim deed to all of the estate of my family, in consideration of $1000 gold, paid in hand, and the payment of $1000 in four equal annual installments; with the provision that my black mammy should be given $10 each month regularly as long as she lived. Also, that she be decently buried, and in the way she had indicated. Furthermore, the graves were to be provided with marble columns, appropriately lettered, and to be cared for in perpetuity. I also stipulated that no houses ever were to be built directly on the site of the old homestead, nor the chimneys ever to be destroyed.

Self-Exiled to Mexico

Plans for my future quickly ripened. At daybreak of the following day, I began my pilgrimage, long and cheerless, full of inconveniences and privations. Reaching San Antonio, that quaint old Spanish town of Texas, with ox-team trade, I rested a week, then continued my journey to Mexico, whither I was wending my way, resolved never to set foot on United States soil again; for I well knew that, with a million of trained men under arms, the American government would not permit Maximilian and his Frenchmen to remain much longer in that neighboring country.

I entered Mexico at Piedras Negras and then loitered around the small towns near the border, mastering the language sufficiently to enable me to practice medicine in the country, and doing enough, with odd little jobs of surgery, to defray my current expenses (which were trivial) in the meanwhile, until the time when the French would be gone. Then I set out for the sickly gulf coast, where I expected I soon would expire in heroic duty, ministering to the stricken.

There remained for me no object in life, save the requital of my professional duty to sick and suffering humanity; and I picked out the most sickly belt of the continent—where even yellow-fever was indigenous—as the field the least attractive among them all, and where my services were likely to be more needed than anywhere else, with the prospect of an abnormally early relief from this intensely critical practice certain to fall to my lot.

In the monotony of semi-idleness of northern Mexico, in my eternal divorcement from every tender and endearing family and social tie, reckless for the nonce of delicate reputation, and among a people where it is customary for a respectable stranger to seek a mistress among the poor girls not public characters (a vice not prejudicial to the man as a member of the better-class society), I began the experiment in two or three small places where I knew I was not going to remain for long. However, I quickly saw that these poor girls promptly would lapse into a state of veritable affection to such a degree that surely must be distressing to me to sever later on; and I paid them sufficient to console them for the blight of their expectations of being mistress of a foreign doctor (a relation, as said, not regarded as a degrading one), and terminated the shady intrigue, never to repeat the like.

Work the Cure

And, while on this unpleasant theme, one that I am not likely to broach again in this retrospect, I want to assure my medical readers that the sexual desire is abated in a wonderful degree under the stress of the stern and pressing exigencies of a rural practice, such as I have been engaged in down here for nearly half a century without one day of restful vacation. Contrast me with Solomon, who cried out, "Vanity of vanities and vexation of spirit!" after he was powerless to "sin" more, if you please; but I have told

you of transgressions in my own country that should make the worst rake among you blush, and certainly have far less motive now to mask my conduct in a foreign land, where some degree of Mormonism would not have discounted my reputation very seriously.

Doctors Should Be Above Suspicion

I do not care a rap about promoting social betterment, in this connection, outside of the medical profession; but the members of the latter, I verily believe, should not only be above suspicion, but actually innocent of sexual laxity, unless they mean, and desire to be, the physicians of harlots and other slum-elements of humankind. A high-toned family physician should be high above and far beyond impure thought in the family of a patient. Ogling a flippant young woman, under such circumstances, should be a professional crime, sufficiently grave to deprive the offender of the right to practice. I have never seen such a lapse from professional propriety, the few young men with whom I have been associated having conducted themselves admirably in the presence of women of the family and others in the house; nevertheless, I have been told that some Europeans are imprudent under such conditions, here in Mexico, where many strangers disgracefully debase the women, because of the prevalent laxity about any woman becoming a mistress when she is not of first-class social grade. However, those Mexican mistresses usually are as tenaciously faithful to their lovers as most married women, here or elsewhere, are to their husbands.

In the Pacific belt of the state of Michoican, where I spent much time, there are as beautiful blond women as I ever saw in Paris. These are French descendants. And in the chaotic anarchy that reigned over Mexico before the pacification by the iron hand of Diaz, there existed bands of bandits who, for a stipulated sum, would kidnap the girl some dissolute rancher desired for a mistress, suddenly appearing at her home, seizing and bearing her away on horseback, while others of them overawed the rest of the family. The girl disappeared, meantime an arrangement being made with the mercenary authorities to condone the crime; from a $25- to $50-fine usually being assessed. Aftert hat, the victim reappeared, living openly with the man as his mistress, without any chance of redress.

One girl was thus kidnaped from a family in which I had been employed quite often, and she lived in the village afterward, horribly abused. I jestingly said to the mayor one day that I had a mind to disquit the brute of the girl; and he promptly offered to bet me $100 that I could not gain her, whether for love or money. I took him up and went to see the girl the same afternoon. She did not get angry, but told me firmly that I knew well the bright life it once seemed she had before her, and how it had been blighted; that the die of her destiny was cast; that she would stray with me sooner than with any other man she knew, if thus inclined; but that the arrangement I proposed would likely result in the death of us both very promptly, were she to accede; that, as she was, she would live and die, unless he died first. The president (or mayor, as such officer is termed among you), a wealthy man, got my money, and told me he had tried in every possible way to win the girl away from her kidnaper, but without making the slightest favorable impression.

Temptations to Produce Abortion

I always had my face sternly set against medication designed to prevent conception or to produce abortion. One wealthy girl in the same village became lawfully married. Two days subsequently, she came flouncing into my office, leaving her servant woman outside, and asked me if I could give her medicine to avoid becoming pregnant, as she did not want a troop of little ones in a hurry. I told her what she desired was dangerously against the law, but that I could give her a safe and an innocent protection. She abruptly demanded it to be given her. Thereupon I told her to drink a glass of cold water on retiring at night, and also to practice continence, and she would be absolutely safe as a consequence. "Hm," she grumbled, "what fool does not know that?" and she left in high dudgeon.

[To be continued.]

What Others are Doing

SPRAYING OF WOUND WITH IODINE-SOLUTION

Doctor Dedolph, of the military hospital at Aachen, asserts that for disinfecting wounds the application of iodine-solution in the form of spray has advantages over the customary swabbing. He says: The iodine spray (1) is more economical—of importance where large numbers have to be treated; (2) it saves gauze, none being used; (3) it obviates soiling of the fingers; (4) it penetrates into recesses where the swab does not enter; (5) it does not cause pain, as the flesh is not touched. In addition, it is handy for iodizing the skin area around the wound. Incidentally the author states that a firm at Aachen has constructed for him a special (patented) atomizer that permits of reaching every part of the body, in whatever posture, the ordinary apparatus failing when held in an inclined position.

TETANUS AMONG THE SOLDIERS

Tetanus has caused a large number of deaths among the soldiers in all the European armies in the field, and the frequency of its occurrence is ascribed to the trench method of fighting, the impossibility of keeping clean, and the constant soiling of the body, and consequently of all wounds, with earth that has been heavily manured. In its issue for March 20 (p. 520), *The British Medical Journal* prints a condensed report of the experience of Professor Czerny, of Heidelberg, as originally published in the *Neue Freie Presse*, of Wien.

In this article, Czerny declares that tetanus so far has been the greatest danger to the wounded. Out of 60,000 wounded Bavarians, 420 developed tetanus, ending fatally in 240 cases. In Heidelberg, there was 32 cases and 15 deaths. The prophylactic value of the tetanus-serum has been thoroughly established, with an experience large enough to prove incontestably that it is a remedy of the greatest value in the prevention of this disease.

This reminds us that every summer there are bound to occur a large number of wounds in this country, a large proportion of which inevitably lead to tetanus. Every physician should be prepared to give the prophylactic serum treatment.

TRAINING DEAF CHILDREN

Anyone interested in a little deaf child can obtain free literature explaining approved methods of training deaf children from infancy to school age by writing to The Volta Bureau for the Increase and Diffusion of Knowledge Relating to the Deaf, 1601 Thirty-fifth Street N. W., Washington, D. C. This literature relates only to the training of little deaf children; not to medical treatment nor to the deafness that comes in later life. Age of child and other details are welcomed.

SCOPOLAMINE-MORPHINE TREATMENT OF LABOR

The journals (medical as well as lay) continue to print numerous articles concerning "twilight sleep" in childbirth, among them being an interesting one by Dr. Francis B. Wakefield, appearing in the March number of *The American Journal of Obstetrics* (p.422.)

Dr. Wakefield writes that he has induced scopolamine-morphine anesthesia in 40 cases in his own private hospital, and declares that the treatment is very exacting and time-consuming but, if efficiently administered, is capable of yielding such splendid results as to repay amply for the time and energy spent. He does not employ narcophine, and asserts that he has no desire to do so.

Doctor Wakefield gives 1-6 grain of morphyne hydrochloride with the first dose of scopolamine, and never repeats the morphine. While it is impossible to lay down any hard and fast rules for dosages, he generally gives the first dose (the combination) as soon as the uterine contractions have become regular, say, every five minutes. Succeeding doses of scopolamine are administered at varying intervals, according to the individual susceptibility of the patient, the usual dose of the scopolamine being from 1-400 to 1-300 grain. At the time of delivery, he generally gives a few whiffs of chloroform, so that the

woman is not conscious at the moment of the child's birth.

"Personally," says Doctor Wakefield, "I would just as soon consider performing a surgical operation without an anaesthetic as conducting a labor without scopolamine-amnesia. Skilfully administered, the best interest both of the mother and the child are advanced by its use. All the talk about 'blue babies' and 'asphyxiated infants' due to the use of scopolamine, so far as my experience goes, is all nonsense. I have no more 'blue babies' or 'asphyxiated infants' now than I had before I began to use scopolamine, and when it happens, as it seldom does, it is due to some mechanical condition. Repeated dosing with morphine or narcophine will affect the babies, but not scopolamine properly administered. Finally, and most important of all, under the use of this beneficent pain - relieving and nerve-conserving treatment, childbirth not only will lose its terror, but will cease to be followed by the nervous invalidism that so frequently has characterized it in the past, particularly among the women of the cultured, well-to-do class, whose education and environment have been such as poorly to fit them for the severe physical and nervous strain which they are called upon to bear in the usual course of labor."

All the good things that Doctor Wakefield has to say regarding scopolamine-morphine can be duplicated—and more, too—about the action of hyoscine, morphine, and cactoid. As usually advised in this journal, the initial dose of morphine, when this preparation is given, is only 1-8 grain, as compared with 1-6 grain of the narcotic advised by those following the Freiburg method. If the morphine requires repeating (it rarely does), usually one-half of a No. 2 tablet (containing 1-16 grain or morphine) is administered at the succeeding dose. A total of two No. 2 tablets (or 1-4 grain of morphine) need not be exceeded in the course of any obstetric case, from the very beginning to the end. The hyoscine alone may be repeated, if desired, in order to maintain the amnesia.

Thus used, the danger is so slight that it hardly deserves consideration; the total quantity of morphine does not exceed that recommended by the defenders of the Freiburg method; and the quantity of hyoscine, as a rule, is much less than the quantity of scopolamine considered necessary by the physicians of that school. Finally, we have the steadying action of the cactoid upon the heart, and this often is simply invaluable.

Do not forget, also, that hyoscine, morphine, and cactoid has had the test of time. Thousands and thousands of women in America have been delivered and are being delivered under the influence of this hypodermic anesthetic.

TWO CASES OF AMEBIC DYSENTERY

Two cases of amebic dysentery have been treated by M. A. McGarty, in the St. Francis Hospital at La Crosse, Wisconsin, a report on which appears in *The Wisconsin Medical Journal* for March, page 404.

The first patient was a man of 37 years, who began to be troubled with dysentery fourteen years ago, when he served as a soldier in the Philippine Islands. At that time he had an acute attack lasting three days, followed by severe abdominal pain, tenesmus, and from 15 to 20 bloody stools a day. This condition has persisted more or less since that period, the discharges at times being bloody and at others simply diarrheic. Throughout the entire fourteen years, he has passed no normal stools. He has lost strength and weight, the latter being reduced about 50 pounds. Examination of the stools revealed the presence of many amebas.

On November 29, the patient was given a hypodermic injection of 1 grain of emetine hydrochloride. The following day the amebas again were found; so, on December 1, 1 1-2 grains of emetine was given, in three injections. On December 2, the number of stools was reduced to about one-half. On December 3, 1 grain of emetine was administered, in two injections. Proctoscopic examination revealed a considerable quantity of bloody mucus in the rectum, also small punctate ulcers were seen on the rectal wall. No specimens of entameba histolytica were found in the feces. On December 5, another 1-grain dose of emetine was given, and thereafter 1 grain every third day, for three doses. Since December 10, the patient has been up and around the hospital. At present, he has only three bowel movements in twenty-four hours. He has gained 15 pounds in weight and in other respects is markedly improved. On January 4, no amebas were found.

The second case reported was that of a man of 40 years, formerly a missionary in the South Sea Islands. In 1898, this man contracted malaria, and in June, 1900, he began to be troubled with frequent stools, which contained mucus and blood. He also suffered from "yaws." He was admitted to the hospital December 14, 1914. The ex-

amination of the stools on the following day revealed the presence of the entameba histolytica.

The patient was given gr. 1-2 emetine, hypodermically, was put to bed, and placed on a liquid diet. Injections of the drug were repeated, in varying doses, every other day, until December 19. Then a tube was passed up the colon, but no amebas were found. The following day there was only one stool during the twenty-four hours. Since then improvement seems to have been constant. At the time of writing, the patient was free from diarrhea, and generally had had but a single movement in the course of a day. He experienced no nausea or ill effects from the drug.

WOUND TREATMENT IN GERMANY

Naturally, discussions of the management of wounds of every description are the order of the day in European medical periodicals. Speaking of first-aid dressings, Doctor Oberst, military surgeon (of Freiburg i. Br.), gives praise to von Oettingen for having introduced the liquid adhesive mastisol, which permits of the ready occlusion of small, nonbleeding wounds, even in the most awkward location, and is a superior substitute for the provisional bandage that sticks fast by means of the driedout blood.

However, the large, torn, contused, and presumptively infected wounds produced by shells and shrapnels present greater difficulties. Because of extensive experience in private practice, the author (*Muench. Med. Woch.*, Dec. 1, 1914), in his capacity as Red Cross surgeon, made use of balsam of Peru as a first dressing, and with uniformly gratifying results. In general, disinfecting the wound by means of hydrogen-dioxide, or other antiseptic solution or applying antiseptic powders no longer is considered good practice (iodoform even being dangerous), and flooding it with iodine-solution, when the wound is large, may not be desirable; while as to von Oettingen's collargol tablets imbedded in the wounds, the author has no experience with that agent. So, Doctor Oberst has adhered to balsam of Peru, as more recently recommended by Schloffer, and corroborated by Koenig, at the Freiburg University.

The beneficial action of this substance is more physical than bactericide, although the cinnamic acid presumably contributes. (The latter does not cause irritation or, through absorption, affect the kidneys.) The resinous substances, it is argued, penetrate all the contused necrotic tissues and those whose mutrition is disturbed, and thereby prevent putrefaction, the septic microbes finding no nutrient soil.

Its employment is extremely simple. When the lesion is superficial and widely gaping, a few drops or cubic centimeters (as demanded) of the balsam is poured into it from the vial, thickly covering every part, then gauze is loosely laid on. Of course, when there are recesses and pockets, these are laid open by means of gentle traction with hooks and then the balsam applied with tampons. The subsequent statement is not entirely clear: "Sutures are taboo. The wound 'remains open.' " But further on we are told that "after applying the balsam the wound always was left open and first a layer of gauze was superfixed by means of cambric strips and mastic-solution, while over this, according to circumstances, an absorptive pad was fastened with bandages or handkerchiefs."

The dressings have been found most excellent (in clinic practice and in this war) in severe bruises of the fingers and the hand (machinery), as also in complicated compound fractures and injuries of large joints; even where the skull was laid open by grazing projectiles, the Peruvian balsam, after removal of splinters and opening up, has been poured directly upon the brain. In fact, the author believes that particularly here inflammation of the meninges may thus be obviated.

Healing is extraordinarily rapid, while the clinical procedure has been completely remodeled under this treatment; for, no longer did inflammation set in, but these balsamic dressings could be allowed to remain undisturbed for days, even a week or two, healing meanwhile proceeding normally and virtually without wound secretion.

This dressing proves the more effective the earlier it is applied; however, wounds have been thus treated that were somewhat old and even when necrosed, discolored musculature was present. A deodorizing and secretion-checking action always was looked for.

Doctor Oberst warmly recommends the incorporation of this treatment in emergency outfits and field lazareths; indeed, it already has been adopted in the army of Holland.

In concluding his article, the author points out, not without cause, that this agent is subject to gross adulteration.

Taking note of the foregoing communication, H. L. Heusner, of Giessen, corroborates (loc. cit., No. 52) what is said there, particularly so far as squeezed-off fingers are concerned; adding that already his father (Prof.

H., of Barmen) had employed balsam of Peru in a somewhat similar manner, and always with the best of success. Before closing the prepared wound, he poured the balsam into all the cavities.

In view of the costliness of Peruvian balsam, however, the younger Heusner cast about for a cheaper substance, one that would thoroughly coat the wound-surfaces as well as act antiseptically; and he hit upon the tars. His primary object was, the treatment of chronic leg-ulcers. A pure asphalt of sufficient liquidity was found to answer the purpose, if need be; as, indeed, it has been recommended by some writers. Next he tried various tar-oils, but some of these proved rather irritating. Of all, oil of cade (oleum rusci) gave most satisfaction.

The leg-ulcer first is superficially cleansed with hydrogen-dioxide solution. After this has dried off, the sore is thickly coated with the oil of cade, undiluted, and then the dressing is applied. Secretion soon stops, while upon changing the dressing healthy granulations will be observed. Shallow ulcerations often yield to two dressings or even a single one. Unpleasant effects never were observed, barring a slight evanescent burning experienced by some sensitive persons.

Heusner is continuing his investigations and invites others to look into this matter. He suggests that possibly this preparation could be made to serve in place of the Peruvian balsam in field practice or wherever economy is essential.

TREATMENT OF THE HEROIN-HABIT

An article upon the treatment of the heroin-habit, which is particularly timely right now, is contributed by T. D. Crothers to *The Medical Council* for September, 1914 (p. 339). The course of treatment suggested by Doctor Crothers is as follows:

Magnesium sulphate, given in 10- to 15-grain doses three or four times a day, until the bowels become irritable, seems to be the most effective single remedy. An infusion of hops or of valerian may be employed as a sedative. Hydropathic measures, in the form of baths, are essential to successful treatment. The heroin should be withdrawn at once, the nervous irritation being quieted by means of valerian, sumbul or asafetida, alone or in combination. As a tonic, an infusion of quassia is suggested. Doctor Crothers says there is no danger in the sudden withdrawal of heroin. This also applies to cocaine.

Crothers asserts that heroin is a dangerous drug to a neurotic, and that, should its use be necessary at any time, its identity should be concealed. The fascination of this drug lingers for a long time in the patient's memory, so that constant caution is necessary.

ALCOHOL IS NOT AN ANTIDOTE FOR CARBOLIC ACID

In a recent number of the *Johns Hopkins Hospital Bulletin* (April, 1915), Dr. David I. Macht published the results of a series of experimental investigations relative to phenol poisoning and the antidotes ordinarily used in cases of this kind. It seems that we shall have to revise our ideas relative to the value of the various antidotes for carbolic acid. Ever since 1899, when Powell introduced alcohol as a preventive of phenol poisoning, this substance has been used probably more than any other for this purpose. It will be remembered that Powell used to demonstrate its value as an antidote by washing his hands in pure carbolic acid and then in alcohol, even by filling his mouth with the acid and then rinsing it out with 95-percent alcohol.

However, the studies of Macht seem to show that not only is the alcohol useless, but actually increases the danger, because it hastens absorption. His studies also show that lavage with alcohol was followed by death more often than by recovery. When large doses of phenol had been given by mouth, washing the stomach with alcohol was followed almost invariably by death, in the experiments which he made upon cats.

The remedy which proved most effective as an antidote, in Macht's experience, was a solution of sodium sulphate. Dogs, he declares, withstand carbolic acid better than do cats, and he found it possible to save these animals by means of immediate lavage, irrespective of the remedy employed. After large doses of phenol, washing with sodium sulphate or plain water sometimes saved life. In late lavage, that is, if the stomach was washed about fifteen minutes after the ingestion of the carbolic acid, sodium sulphate gave the best results, plain water the next-best, while, as already stated, the use of alcohol was almost invariably followed by death.

Doctor Macht agrees with Tauber, that sodium sulphate is effective, because it hinders absorption. Also, through its purgative action it rids the body quickly of the poison. Magnesium sulphate can be used

for the same reason as the sodium sulphate, but the possibly depressing effect of magnesium ions in case of absorption is a disadvantage. However, when the sodium sulphate is not accessible, the magnesium sulphate, being usually at hand, may be employed in its place.

The moral of these observations is, that physicians should beware of washing out the stomach with alcohol when carbolic acid has been taken by the mouth. It is not denied, of course, that applications of alcohol to the skin or external tissues, after carbolic acid is applied, may be of value in preventing carbolic-acid burns.

ANTITYPHOID INOCULATION IN CANADA

The Lancet (June 12, p. 1245) tells us that the Canadian Pacific Railway has made a series of antityphoid vaccinations in its employes, extending over three years; that is, from 1911 to 1913 inclusive. From the report of Dr. L. S. Mackid, medical officer of the railroad at Calgary, Alberta, we learn that in 1912, 5500 inoculations were performed, and that there developed only two cases of typhoid fever among the persons so inoculated. One of these two attacked had received only one injection and came down with the disease a few days later. It is probable that he had already contracted the disease when the injection was made.

Among the other employes of the company who were not vaccinated, and who were living under exactly the same conditions as the men who were treated, 220 cases of typhoid fever developed.

A striking illustration of the value of this prophylactic treatment is cited by Doctor Mackid; namely, 35 men who were camped within the city limits absolutely refused to be vaccinated at first. Among the latter, 11 cases of the disease developed as a result of this neglect; whereupon the men asked to be given injections. After that, only one more case occurred in this vicinity.

Since this report was published, it seems that the statistics have been completed. These are now cited by *The Lancet* as follows: Total number of men employed, 24,000; total number vaccinated, 13,900; number of cases of typhoid among the unvaccinated, 290; number of cases among those who have been vaccinated, 3.

Again we have here a demonstration of the extreme prophylactic value of this expedient. Our wonder persists that it has been so little resorted to in civil life. An expedient which is so surely capable of preventing this extremely common disease should be employed to as frequently as vaccination against smallpox. Will someone please explain why it is so much neglected?

MEDICAL TREATMENT IN EXOPHTHALMIC GOITER

"Do not be hasty in urging operation for exophthalmic goiter," remarks the editor of *The American Journal of Surgery*. "Even bad cases," he continues, "sometimes recover completely under conservative treatment."

This is excellent advice, indeed, and especially appreciated because coming from a surgeon—and a good one, too. The best surgeons, by the way, are not eager to perform thyroidectomy in cases of exophthalmic goiter. The mortality following surgical intervention is high, and cure does not invariably follow; while, when it does follow, undesirable by-effects are not at all infrequent.

Before operating in any case of this kind, we would strongly advise careful trial of the method of treatment introduced by the late Professor Forchheimer, this consisting in the administration, three or four times daily, of 5-grain doses of quinine hydrobromide, in association with ergotin (1 grain). Under this treatment, the symptoms often clear up as if by magic. The method is harmless, it is unattended by mortality, it nearly always gives relief, and it sometimes seems to effect complete cure.

ATROPINE AS A REMEDY FOR IRRITANT GASES

In view of the introduction of irritant gases, principally chlorine, and possibly bromine, into warfare by the Germans, a good many suggestions for the prevention and treatment of suffocation from this cause have appeared in English and French medical journals. As already indicated in these pages, the principal remedy for the prevention of this form of asphyxia among soldiers is, to provide the soldier with a gauze mask moistened with a solution of sodium bicarbonate or hyposulphite.

For the relief of patients who have been so gased, the principal remedy heretofore has been oxygen by inhalation. Unfortunately, cylinders of oxygen rarely are available on the battlefield. Douglas V. Cow, of the pharmacologic laboratory of Cambridge Uni-

versity, in a recent number of *The Lancet* (May 29, p. 1147), puts forward atropine as a remedy claimed to be of great value. He says that this alkaloid does not appear to be used at present to any considerable extent in the treatment of these cases. He has, accordingly, conducted a series of experiments, to demonstrate its value (or lack of it) in chlorine or bromine poisoning.

These experiments were made upon rabbits, who were arranged in pairs, according to their body-weight, and exposed to the irritant vapor for periods of fifteen minutes and more. One animal of each pair was treated with atropine, the other being kept as a control. The doses of atropine employed were very large, varying from 2 1-2 to 4 mgm. (1-25 to 1-16 grain), it being explained that rabbits are exceedingly tolerant of this alkaloid.

The results obtained with the atropine were very marked, and agreed qualitatively throughout the series, although the effects were, of course, more obvious in some animals than in others. When removed from the gas, the animals were in every case breathing with difficulty, the rate of respiration varying from 92, to 20 to the minute, it being labored in every instance. The condition without treatment always became progressively worse, and within thirty minutes after removal from the gas, there was stridor, crepitations, and rhonchi. Under the atropine treatment, the animals became more alert, respiration much easier and less labored, the chest obviously filling and emptying more completely with each breath. The physical signs disappeared from the chest in every case except two, and in these the stridor and crepitations disappeared, only a few rhonchi remaining. In the control-animals no such improvement occurred.

Doctor Cow remarks that the improvement in the animals which received oxygen as well as atropine was particularly obvious, indicating the desirability of the combination treatment when possible.

The animals were killed about five hours after beginning treatment, and postmortem examinations were made. All the lungs from atropine-animals were found normally collapsed, while in the case of the controls the lungs remained distended, retaining the shape of the thorax, like plaster casts, after the chest was opened. Frothy fluid exuded from the cut bronchi, the amount varying considerably, but always more in the controls than in the atropine-animals. Also, there were marked differences in weight between the lungs of the atropine-animals and the controls, that of the atropine-animals being considerably less than of the controls.

Finally, Doctor Cow points out that oxygen, when given alone to these rabbits, produced little or no amelioration of the symptoms, but when given in association with the atropine the benefit was very decided.

HYDROGEN DIOXIDE LOCALLY IN TETANUS

Doctor Kellermann, of the Theresa Hospital at Kissingen, reports (*Muench. Med. Woch.*, 1914, p. 2453) one case of tetanus seemingly benefited by local treatment with hydrogen dioxide. Details are not given. The idea was suggested by the fact of the bacillus being anaerobic. Once a day he injected 10 Cc. of the solution into the (partly healed and agglutinated) bullet-wound, in the direction of the course of the missile. The injections being extremely painful, morphine first was injected a quarter hour before the other.

THE GENERAL PROPHYLACTIC TREATMENT OF INFECTIOUS DISEASES

In a clinical lecture on the general treatment of infectious diseases published in the *Deutsche Medizinische Wochenschrift* for April 10, Professor Grober, of Jena, pointed out that (although, in general accord with the accepted view of the present day, the treatment of infectious diseases is specific; that is, to say, by remedies prepared from, or with the aid of, the causative virus itself) the general treatment of the organism is still of great importance, on the one hand, in order to enable it to defend itself against a bacterial invasion and, on the other hand, better to resist the harmful action of the virus once this has been established and localized in the body. It must be conceded that, other things being equal, the healthier and stronger body resists a qualitatively like infection better than does a weak body or one that has been enfeebled through other diseases.

Since phagocytosis is one of the most important provisions of defense, remedies that promote phagocytosis are particularly indicated as prophylactics, and of these the nucleins and cinnamic acids are probably the most efficient ones. Other means consist in local hyperemia, by which the protective substances of the blood are localized at the point wherein bacterial invasion occurs; and also in generous nutrition.

Of specific means of prevention, we have long known and practiced Jenner's vaccination against smallpox and, to a less degree, the prophylactic passive immunization against diphtheria. Recently methods of efficient and more or less lasting vaccination against typhoid fever and against tuberculosis have also been perfected.

While the specific remedies are of the highest importance in certain definite circumstances when the exposure to a certain kind of infection is known and unavoidable, the general strengthening of the body is even more important, in order to enable it to resist all kinds of bacterial harms; and for this purpose the prophylactic treatment with nuclein, together with a generous and suitable diet as well as with efficient elimination, will prove best adapted to protect the body against harm.

DIGIFOLIN: A SUESTITUTE FOR DIGITALIS INFUSION

Digifolin, introduced by a chemical firm of Basel, is claimed to represent, in standardized form, all the therapeutically useful principles of digitalis leaves in their natural combinations and proportions, but devoid of all inert and objectionable concomitant constituents.

In a communication to the *Therapeutische Monatshefte* (Dec., 1914, p. 755), Walter Misch, of the Policlinic Institute of the University of Berlin, quotes Hartung to the following effect: Experiments with frogs have shown digifolin (leading constituent principles, digitoxin and digitalein) to exert upon the heart and circulation the full effect of digatalis leaves, while being free from the harmful saponins and other deleterious substances present in the crude drug; besides being more resistant to the gastric ferments than is the infusion, and also not prone to deterioration.

The author of the article adds his testimony to that of a number of writers, mentioned by name, regarding the therapeutic effectiveness of the preparation, and emphasizes the exact dosage possible, as against the infusion, as well as the fact that the hypodermic administration causes no pain. His extended clinical experience is illustrated by a number of striking cases from practice.

Conclusions arrived at: The influence of digifolin upon arterial pressure, pulse rate, heart rhythm, and diuresis is excellent. Especially in disturbed decompensation, it is equally as active and specific as are the infusion, tincture, and digalen (Cloetta). Internally, it does not derange the stomach. Intravenously, its action does not differ from digalen. Administered hypodermically, however, it is superior to digalen, in that the injections virtually are painless.

We may state that there is available in this country a digitalis preparation, known as digipoten, which presents the advantages just mentioned, and—it is "made in America."

WILL CALCIUM SULPHIDE CURE PHTHISIS?

From time to time we have published in this journal reports of the experience of physicians who have used calcium sulphide in the treatment of tuberculosis. While this chemical cannot be called a specific or a "cure," yet, it cannot be denied that brilliant results not infrequently follow its administration. An illustration of the truth of this remark may be found in the June 12, 1915, number of *The Medical Record* (page 988), in which A. H. Henderson, a medical missionary in China, reports a number of cases in which calcium sulphide was used in desperate cases of tuberculosis, with good results.

Doctor Henderson was led to try this remedy through reading in *The Medical Record*, some years ago, the report of another medical missionary, in Turkey (Doctor Ussher), who used calcium sulphide in treating infectious diseases, including smallpox, scarlet-fever, and measles. The report of Doctor Ussher's experience was reprinted at the time in Clinical Medicine. In view of Ussher's results, Doctor Henderson reasoned that calcium sulphide should prove "the foundation-stone for a successful attack on our stubborn foe"—tuberculosis. Below we print verbatim Doctor Henderson's report of four cases treated in this manner:

"Case 1. K. started in over two years ago with hemorrhage, cough, fever, much expectoration, and well-marked, rather diffuse signs of tuberculosis, mostly in the left lung. Treatment with calcium sulphide was begun, 6 grains a day in three doses. All expectoration and fever soon disappeared. He has never had any more hemorrhage; the tuberculous process is still active, as is evidenced by indurated spots and some pain in the chest, but the process is absolutely dry, no moist rales being heard. He has resumed his work, which was laid aside, is holding his weight, and says that he feel as well as he ever did. He has continued steadily with the calcium sulphide in doses

of from 6 to 8 grains a day, without any digestive or other trouble from it. Codliver-oil and creosote were used with the other treatment, and with these he held his own.

"Case 2. K. B. started in in much the same way, about the same time, only that his case was complicated with malarial fever. Same treatment and same results, except that, as he has been less faithful in the use of the pills, he has some cough still, but no expectoration. The last examination of sputum, some eighteen months ago, showed the bacilli clubbed.

"Case 3. S., carried in to me from a village about three miles out. Unable to walk, septic temperature, abundant blood-stained purulent expectoration and seemingly in the last stages of consumption. I gave him about a month to live, but gave him the chance of trying the treatment at home. Calcium sulphide, creosote 3 grains a day, and codliver-oil. He reported that his cough was disappearing, sputum no longer blood-stained, fever subsiding, and he was beginning to walk about. Some three months later, he walked into the dispensary so well- and healthy-looking that I did not know him. unfortunately, he has now discontinued the treatment and his symptoms are coming back.

"Case 4. Pulmonary abscess. A fellow practitioner in Rangoon to whom I had spoken of these cases used the calcium sulphide in a case of pulmonary abscess and reported to me a simply astonishing cure. For the septic fevers, it is the drug *par excellence*. We do not have scarlet-fever out here, but, if ever I had another case to treat, I should certainly try the calcium sulphide and expect largely to modify its course."

As Doctor Henderson says, in order to be successful in these cases, it is necessary that fresh preparations of calcium sulphide be employed. He gave large doses in these cases, because he could not personally watch results closely. Apparently, Doctor Henderson believes in the "small dose frequently repeated" whenever this method of administration can be adopted. The association of nuclein and calcium sulphide is suggested.

We have referred to this paper by Henderson in the Editorial Department, this issue.

EARLY USE OF IPECAC IN POSTPARTUM HEMORRHAGE AND IN SHOCK

In the February number (page 131) of *American Medicine*, the editor refers editorially to the value of emetine for checking hemorrhage, especially in hemoptysis. In a brief letter commenting upon this editorial, H. B. Young asserts that his father, a well-known physician of western Illinois (who died in 1874), said that he had accidentally discovered a new use for ipecac. He writes:

"In a labor-case, which had been easy, his [father's] patient, just as he was about to leave her, suddenly took on all the appearances of postpartum hemorrhage—blanching, sighing respiration, and collapse—but the bleeding was not in evidence. Fearing a concealed hemorrhage, although at a loss to say where it might be, he administered an emetic dose of ipecac powder; which was promptly followed by subsidence of all the alarming symptoms. The patient making an uninterrupted recovery, he decided that the supposed hemorrhage was really shock. Subsequent to this, he administered ipecac in a case of surgical shock, and so satisfactory was the result that he ever afterward made it his premier remedy for shock."

This is decidedly interesting. It shows that, after all, there is "nothing new under the sun." However, the alkaloid emetine has every advantage over the galenic ipecac, not the least being that it can be used without producing the awful nausea characteristic of the parent drug. The suggestion that the emetine may prove of value in the treatment of shock is worthy of further investigation.

PYORRHEA: THEORIES AND EXPERIENCES

A thoughtful paper on pyorrhea is contributed by Agostini to *The Dental Cosmos*, June (p. 645). After reviewing the different methods which have been employed in the treatment of this common disease, he summarizes his conclusions in the following "cold facts": "Its name is a failure. The surgical treatment is a failure. The vaccine treatment has been a failure." As to emetine, he withholds judgment, but, clearly, he is of the opinion that this remedy has promise, if used in association with other properly indicated therapeutic procedures, cleanliness of the oral cavity being essential for success.

In the same number of *The Dental Cosmos*, on page 704, Dr. E. N. Beall, of St. Louis, expressed his confidence in the curative value of emetine in no uncertain terms. He takes issue at once and strongly with Talbot and others who have questioned the value of emetine, and raises the question whether these critics have ever really used the remedy themselves. Beall's clinical experience in the treatment of 25 cases of pyorrhea, all of

which have been checked up by microscopic examination, convinces him that the remedy is curative when properly used. He is sure that any dentist who adheres to the following technic will be well satisfied as to the value of this alkaloid in pyorrhea:

If the specimen shows an amebic infection, inject subcutaneously 1-2 grain in the deltoid region of either arm, and inject a solution containing alkaloidal emetine, with other ingredients to take care of the associated infection (pyorrhea), into all pockets. Prescribe for the patient a solution of emetine in an alkaline medium, to be applied three times a day to all parts of the gums; and a milder solution of the same, to be used as a gargle, to control amebas on the mucous membrane of the throat and tonsils. Prophylaxis should be only superficial at this time, otherwise there is the danger of a deeper infection.

General prophylaxis should not be employed until after the seventh day. This is very important.

Repeat the same treatment on the second, third, fourth, and fifth days. On the fifth day, a subcutaneous treatment may be necessary; this depending upon the clinical appearance of the gums. After the fifth day, it is necessary to see the patient three to four times a week, and carry on persistent pocket medication over a period of from four to six weeks. This is, to prevent a reinfection during treatment.

After the mouth is in a healthy condition, a general amebicide should be used as a safety factor against a new infection. The term "new infection" is used, because there can be no reinfection after the case is cured.

This technic, while it differs in some respects from that which has been advocated in this journal, is, nevertheless, very nearly what we have recommended. For instance, we firmly believe that the emetine (in 1-2-percent solution) should be associated with antiseptics (as in the preparation known as boremetine) when intended for oral use. We also agree with Doctor Beall that best results are obtained when the remedy is used orally and subcutaneously at the same time. The suggestion, that the drug may also be used as a gargle is a good one, but when so used we would advise the dilution of the 1-2-percent solution to 1-10 or 1-5 its strength; in other words, the boremetine should be diluted by the addition of from 4 to 9 parts of water. Still more effective for application to the mouth and gums is the emetine-bearing jelly, known as gelemetine.

We strongly advise the readers of this journal to give careful trial of the technic advised by Doctor Beall, with our suggested modifications. We are hearing from many dentists and physicians who are employing the emetine method of treating pyorrhea, and when it is used as it should be used it certainly is bringing results in the vast majority of cases.

ON THE ACTION OF ARSENIC AND IRON IN ANEMIA

In a contribution to the *Presse Medicale*, 1914, page 381 (cf. *Ther. Monatsh.*, 1914, p. 598), Aubertin, of Paris, explains the action of arsenic and iron in anemia by saying that arsenic promotes the formation of new erythrocytes, while iron favors production of more hemoglobin and its fixation to the former.

In some cases of anemia, the administration of one or the other agent singly may suffice; as a rule, though, the two must be given conjointly for attaining satisfactory results. However, one will initiate the cure with a preliminary course of one or the other remedy, according as to what condition may be revealed, whether a diminution of red blood-cells or of hemoglobin.

All of which suggests the use of the arsenates —especially the arsenate of iron. We know by experience the value of this preparation.

SCABIES, BEDBUGS, LICE

In a contribution to the *Muenchener Medizinische Wochenschrift* (1914, p. 2425), F. Lesser, of Berlin (dermatologist and staff army-surgeon), briefly considers the subjects embraced in the headline. The extermination of lice, he asserts, in an extremely simple matter. The hair of the head is clipped short, then kerosene is rubbed in. Before retiring, the subject lathers his whole body with a sulphur-soap, washing it off the next morning. He mentions vinegar of cevadilla as effective, but entirely dispensable. His clothes, knapsack, and bedding are thoroughly beaten (straw-mattresses being emptied) and (preferably) fumigated with sulphur. This eradicates the body-lice.

The crab-lice are destroyed by means of weak mercurial ointment; which, though, should only be worked into the *hair, and not* at all rubbed on (or, worse, into) the skin, so far as the genital region is concerned, inasmuch as this not infrequently results in a disagreeable and obstinate dermatitis. More-

over, never should the pubic hair be shaved off, since in regrowing the stubs give rise to provoking irritation that, in the case of a soldier, may greatly reduce his value for a while.

As to scabies, or itch, Doctor Lesser declares that, odd as it may sound, this affection very often proves most difficult of diagnosis, many times being dismissed as being a result of scratching because of the bites from the various domestic insects; while, on the other hand, this latter condition erroneously will be treated as scabies. Even the increased itching after going to bed is a dubious sign. Exemplifying, he tells how Kaposi, when yet an assistant of his former teacher, Hebra, would, in the clinics, recognize every, even the most rare, skin disease, only to fall down on cases of itch. Naturally, there is much occasion for such confusion in active warfare, what with bugs, lice, and fleas omnipresent.

Lesser adduces one important diagnostic criterion which he thinks is not receiving due recognition; namely: if the terminals of the skin folds proceeding from the armpit are free from itching, one quite safely may assume the absence of the itch-mite. Their localization between the fingers and on the penis is, of course, fully understood. If the skin scratches owe their existence to biting insects, the trouble will be found, as a rule, where the garments fit more closely, as, about the hips and shoulders.

SYMPTOMATOLOGY AND THERAPY OF ANGINA ABDOMINALIS

In a discussion of the condition known among German physicians as angina abdominalis, M. J. Breitmann (*Zentralbl. f. Inn. Med.;* cf. *Muench. Med. Woch.*, Jan. 5) presents the following clinical picture, as resulting from the causative sclerosis of the abdominal arteries or from vascular spasm; that is, in fact, a condition of arteriosclerosis. The prominent symptoms observed are:

Painful meteorism (resulting from intestinal paresis), abdominal pains that sometimes are very severe, pulsations in the epigastric region, facial pallor, vertigo, swooning, and sensitiveness to pressure upon the abdominal aorta. These phenomena set in periodically. In arriving at the diagnosis, diseased conditions of the abdominal organs must be excluded. The prognosis, as a rule, is unfavorable, inasmuch as the symptoms of abdominal angina frequently already constitute the beginning of the end and lead to paralysis of the heart.

The treatment in this condition should include hydrotherapy, adonis vernalis, nitrites, diuretin, iodine, abstinence from alcoholics and tobacco, and a lactovegetarian diet. Tiodin is the author's choice for the iodine medication. The neuralgic pains he combats with aspirin in conjunction with urotropin or iodopyrin. Oil (sesame, olive, etc.) clysmata for the meteorism.

THREE ATTACKS OF SCARLET-FEVER IN A YEAR

In *The British Medical Journal* of June 12 (p. 1003), Dr. M. Stewart Smith reports a case of three attacks of scarlet-fever occurring in the same individual within one year. The patient was a child, six years old. The first attack, associated with tonsillitis, occurred on June 17, 1914. The eruption was faint, but desquamation typical. The disease took a normal course. On December 14, the same year, the doctor was called to see the same child, and found all the signs of a typical attack of scarlet-fever. In this instance, the rash was very marked. An attack of otitis media occurred as a complication. On the succeeding February 18, the patient was seen again by Doctor Smith, and again all the symptoms and signs of scarlet-fever were present. This ran its usual course, and the hands and feet peeled in the manner seen in this disease. There were no complications.

The Doctor observed that the tonsils were large, and, as they seemed to provide the nidus of infection, they were enucleated after the third attack.

REFLECTIONS ON RED-CROSS SERVICE AND DOCTORS IN THE WAR

Writing from the front, in the Austria-Hungary conflict with Russia, General-Staff Surgeon Myrdacz, of Graz, contributes to the *Militaerarzt*, Vienna (1915, No. 1), a few brief "New Year thoughts" on the work of the medical profession in the service of humanity, from which a few passages may be cited, as of a certain interest to every member of the profession.

"Above all," we read, "must be emphasized the enormous losses of the medical corps sustained through death on the battlefield and by murder, through maiming and epidemics. Like every branch of the army, so the surgeons are doing superhuman work, and every distinction between combatants and non-combatants among them has vanished. Already there may be seen in our ranks men

whose breasts are decorated with insignia of heroism, valor, and distinguished services. Indeed, the creation of an officers' corps without division into combatants and non-combatants seems certain to follow this war; for, all have battled, battled with every resource of personal valor, unyielding pertinacity, every aid offered by technic and science. So, the interfering bureaucracy is shattered and wiped out; with its interminable red-tape system of reports, inventories, documents, and all. . . . .

"And the Geneva Convention? Torn up, like all other international treaties, trod under foot by Europeans lapsed back into savagery—not to mention Hindus, Moors, and Kaffirs—it has become a worthless bit of paper; and this in the year when steps were being instituted for the celebration of its semicentennial jubilee. In view of the shocking cruelties committed in Belgium, France, Galicia, where military surgeons were shot, wounded, and tortured merely because it was a case of war, while places for the care of the wounded and sick were bombarded, the celebration quietly was abandoned.

"Only as a national institution the Red Cross persists, and it is doing a grand work. . . . . Never before has the consciousness of beneficent blessed work penetrated so deeply and broadcast into the populace; in the most remote and poverty-stricken hamlets the people contributed to the Red Cross, often with great sacrifice, and are happy when they personally are privileged to take over the care of wounded unfortunates."

ON THE COMBINATION OF MALE FERN WITH CASTOR-OIL

In number 44 (1914) of the *Muenchener Medizinische Wochenschrift*, F. Schotten, of Mainz, describes at length the case of a 27-year-old woman suffering from Addison's disease who died, under typical symptoms, after taking a certain, reliable, preparation of oleoresin of male fern and castor-oil. The author joins those medical authors who consider that castor-oil renders the filix extract more dangerous and, hence, should be abjured. Incidentally he points out that virtually all vermifuges must be classed with the antiseptics and, thus, are cell-poisons, which, if too largely absorbed, must endanger the host as well as the enteroparasites.

Challenging the conclusions of the writer cited, Eugen Dieterich, the famed manufacturer of Helfenberg a. G., comes to the defense of the combination in question. While once in a long while instances of intoxication or death are being reported, he happens to know, on the other hand, that of the particular preparation more than 5 million doses have been dispensed for the removal of tapeworms, and with the happiest results. Moreover, no one yet has shown the castor-oil to be the guilty factor; the only thing demonstrated is, that filix mas is a potent medicament and should be given unquestioned to healthy persons only, but always with much circumspection when the subject is seriously sick.

In the present instance, the unfortunate outcome rather seems to prove, according to Dieterich, that in melasma suprarenale filix is contraindicated. But, still more, the remedy (the oleoresin and the oil contained in separate capsules) was not taken in conformity with the printed directions, and also the dietetic rules were ignored; as a consequence, the male-fern extract remained altogether too long in the bowels. Charge unproven.

In this connection, we may add that we know of one Chicago firm that has sold thousands of bottles of a tapeworm remover containing male fern and castor-oil; and only good results have been reported.

TUBERCULIN USED IN PROGRESSIVE PARESIS

A. Joachim, of Rekawinkel (Austria), reports briefly (*Wien. Med. Woch.*, 1914, No. 44) upon 10 cases of progressive general paresis in which treatment with tuberculin gave excellent results. When the treatment was undertaken reasonably early and carried out vigorously, the patients were dismissed as cured within six or eight months, then returned home and took up their vocations. One had remained cured at that time for three and one-half years.

RECOVERY FROM GANGRENE OF LUNG WITHOUT SURGICAL INTERVENTION

Kaiser, of the Medical Clinic at Marburg, has described (*Med. Klin.*, 1914, p. 845; cf. *Ther. Monath.*, Aug., 1914) three cases of pulmonary gangrene in which expectant treatment was followed and the patients recovered without surgical intervention. Consequently, in such cases should conditions seem hazardous for operation, the attending ing physician would be justified in procrastinating—always, prepared, however, for instant pneumotomy.

Miscellaneous Articles

Dysentery in Napoleon's Army During the Campaign in Russia, Anno 1812

FRUITFUL and extensive is the field of universal history; in its circle dwells the whole moral world; through all conditions through which man has lived, through all changes of opinion, through all his folly and all his wisdom, through his deterioration, his improvement, history accompanies him; of all that he took for himself and all that he gave, history has to give account.

These were words uttered by Schiller in his ever memorable inaugural address as professor of history, delivered in Jena on May 26, 1789.

Napoleon said, "History is the true philosophy."

There is no one of us to whom history has not something important to say.

When a man studies medicine, and medicine only, he will never be a good physician, but only an artisan. There is a difference between a philosophical mind and that of one who concentrates his energy solely to fulfil the conditions which enable him to gain all such advantages from his profession that will improve his material state, that satisfy a petty passion for glory; and this man thinks it is wasting time to study universal history, which time should be devoted to medical studies exclusively. And when he has attained his first aim, entered into practice, his whole care is, to preserve all the treasures which he has committed to memory and to prevent their value from being reduced. He expects reward for his labor, appreciation, distinction in medical societies, and security against want, and, if he does not succeed, who is more miserable than he, the physician? He has lived in vain, worked in vain; he has searched the truth in vain, when the truth has not come in form of fame and gold. Deplorable man, who has worked in the field of science and art, to secure nothing more than the meanest, common laborer, who in the kingdom of most perfect liberty has had the soul of a slave.

How unsatisfactory is the reading of exclusively medical history without the study of universal history. This will appear plain to us when we read, for instance, the reports of diseases observed during Napoleon's campaigns, as medical history has been presented in monographs, without reference to the universal history of Napoleon and his time.

I wish to illustrate this by giving an extract from my book on Napoleon's campaign in Russia, anno 1812, from the chapter treating on dysentery. But even this chapter alone will not suffice if we do not read the whole history of that campaign.

The annihilation of the "grand army" is not to be attributed to the cold and the fearful conditions on the retreat from Moscow alone; the army was, in reality, annihilated before it reached Russia.

In the beginning of May, 1812, the great army of Napoleon arrived at the frontier of Poland, whence it proceeded by forced and most tiresome marches to the river Niemen, which forms the boundary between Lithuania and Poland, arriving at the borders of this river in the middle of June.

An immense body of soldiers (500,000) met near the city of Kowno, crossed the Niemen on pontoons, and formed, under the eyes of the Emperor, in endless battle-line on the other side. I quote:

"The forced march continued day and night over the sandy soil of Poland. The tropical heat during the day and the low temperature at night, the frequent rainstorms from the north, the camping on bare and often wet ground, the ever-increasing want of pure water and fresh provisions, the immense masses of dust, which, cloudlike, hung over the marching columns—all these difficulties put together had sapped the strength of the soldiers already at the beginning of the campaign. Many were taken sick before they reached the Niemen.

"The march through Lithuania was hastened as much as the march through Poland. Provisions became scarcer all the time, meat from cattle that had suffered from starvation and exhaustion was for a long time the soldiers' only food. The great heat and the inhalation of sand and dust dried the tissues of the body, and the thirsty soldiers longed in vain for a drink of water. Often there was no other opportunity to quench the thirst than the water afforded by the swamps. The officers were powerless to prevent the soldiers from kneeling down at stagnant pools and drinking the foul water without stint.

"Thus the army, tired to the utmost from overexertion and privation and disposed to sickness, entered the land of the enemy. The forced marches were continued during the day, through sand and dust, until stormy weather set in with rain, followed by cold winds.

"With the appearance of bad weather, dysentery, which had already been observed at the time of the crossing of the Niemen, showed itself with greater severity. The route the army had taken from camp to camp was marked by offensive evacuations. The number of the sick became so great that they could not all be attended to, and medical treatment became illusory when the supply of medicaments was exhausted.

"The greater part of the army fought in vain, however courageously, against the extending evil. As everything was wanting of which the sick were in need, there was no barrier against the spread of the disease, while at the same time the privations and hardships which had caused it continued and reached their climax.

"Some of these soldiers would march, equipped with knapsack and arms, apparently in good spirits, but suddenly would succumb and die. Others, especially those of strong constitution, would become melancholy and commit suicide. The number of deaths increased from day to day.

"Marvelous was the effect of emotion on the disease. Surgeon-General von Kohlreuter, during and after the battle of Smolensk, witnessed this influence. Of four thousand Wurttembergians who took part in that battle, there were few quite free from dysentery.

"Tired and depressed, the army dragged along; but as soon as the soldiers heard the cannon in the distance, telling them the battle was beginning, they emerged at once from their lethargy; the expression of their faces, which had been one of sadness, changed to one of joy and hilarity. Joyfully and with great bravery they went into action. During the four days that the battle lasted and for some days afterward, dysentery disappeared as if banished by magic. When the battle was over and the privations were the same again as they had been, the disease returned with the same severity as before—nay, even worse, and the soldiers fell into complete lethargy.

"Remarkably sudden disaster followed the immoderate use of alcohol. Some Wuerttembergian soldiers, who during the first days of July had been sent on requisition had discovered large quantities of brandy in a nobleman's mansion and had indulged in its immoderate use and died, like all dysentery patients who took too much alcohol.

"The number of Wuerttembergians afflicted with dysentery, while on the march from the Niemen to the Dwina, amounted to three thousand; at least this many were left behind in the hospitals of Malaty, Wilna, Disna, Strizzowan and Witepsk. The number of deaths in the hospitals increased as the disease proceeded from day to day, and the number of those who died on the march was not small. Exact hospital-statistics cannot be given, except of Strizzowan, which was the only hospital from which lists had been preserved.

"Out of 902 patients, 301 died during the first three weeks: during the other three weeks, when the patients had better care, only 36 died.

"In the hospitals established on the march, in haste, in poor villages, medicaments were either wanting entirely or could be had only in insufficient quantity. All medical plants which grew on the soil in that climate were utilized by the surgeons, as, for instance, in the hospital of Witepsk, huckleberries and the root of tormentilla. Establishing the hospital in Strizzowan, some of the patients were placed in the castle, others in a barn and the rest in stables. Not without difficulties and under great dangers, provisions were procured from the neighborhood. As medicaments were used, and sometimes with really good results, the following plants, which were found in abundance in the vicinity: cochlearia armoracia, acorus calamus, allium sativum, raphanus sativus, menyanthes trifoliata, salvia officinalis.

"In the course of the following three weeks, General Count von Scheeler gave several thousand florins, to be used for the alleviation of the sufferings of the soldiers, and there were procured from great distances, namely,

from the Polish cities Mohilew, Minsk, and Wilna, suitable medicines and provisions. The proper diet, which could now be secured, together with best medicines, had an excellent effect. This is seen at a glance when perusing the statistics of the first three and the last three weeks. In some cases in which the patients had been on the way to recovery, insignificant causes would bring relapse. Potatoes grew in abundance in the vicinity of the hospital, and patients would clandestinely help themselves and eat them in excessive quantities, with fatal result.

"In some, the intestinal tract remained very weak for a long time. Emaciation of the convalescents improved only very slowly. Remarkable was a certain mental depression or indolence which remained in many patients. Even in officers who had been known as energetic and good-humored men there was seen for a long time a morose condition and very noticeable dulness. Whatever they undertook was done slowly and imperfectly. Sometimes, even with a kind of wickedness, they showed an inclination to steal or do something forbidden. Sometimes it was difficult to induce them to take exercise. Von Scherer, the physician, in order to cheer up the convalescents, ordered daily walks under guard, and this was the more necessary as œdemata developed on the extremities in those who remained motionless on their couches.

"How injurious the immoderate use of alcoholic beverages proved to be, was demonstrated in three cases of convalescents, who were still somewhat weak. They had secretly procured some bottles of brandy from the cellar of the hospital, and, with the idea of having a good time, had drunk all of it in one sitting. Very soon they had dangerous symptoms: abdominal pain, nausea and vomiting, followed by lacrimation from the protruding and inflamed eyes. They fell down senseless, had liquid and highly offensive evacuations, and died, in spite of all medical aid, in six hours. On the abdomen, the neck, the chest, and especially on the feet of the corpses of these men, there were gangrænous spots of different sizes: a plain proof that the acute inflammation, gangræne and putrefaction had been caused by the excessive irritation of the extremely weak body.

"The French army, in forced marches, pursued the enemy on the road to Moscow, over Ostrowno, Witepsk, and Smolensk. Dysentery did not abate. In the hospitals of Smolensk, Wiasma, and Ghiat, were found, besides the wounded from the battles of Krasnoe, Smolensk, and Borodino, a great number of dysentery-patients; many died on the march. The whole presented a pitiful sight, and the soldiers' contempt of life excited horror."

A. Rose.

New York, N. Y.

ON THE FIRING-LINE

The medical journals already complain of the meager medical news that comes from the hospitals in the rear and on the front lines. It is hard for them to understand that much of the work done here is merely transient: the patient must be given immediate treatment for the time and occasion. Even in the hospitals in the rear, there is a constant pressure to have the patients moved on, in order to make room for more recent patients; and, then, when finally they reach the home-hospital in England, the question arises as to whether they would not do better in their own homes. Unless the wounds are very severe, the authorities as well as the patients themselves are anxious to have the wounded transferred to the private home. Those who are incurable and all who never can go into service again are pushed back and housed in institutions and elsewhere. Of course, all surgery must be done for the present moment, and what the results will be is a matter more or less difficult to determine.

To us on the firing-line, who are giving first aid to the wounded, it is a question of rapid and accurate diagnosis and what must be done at the present moment. I think I can safely say that the young surgeons along the front are becoming as thoroughly trained in their work as are the men in any other branch of service.

In one of the recent trench charges, where the enemy made a desperate effort to regain his lines and charged repeatedly throughout several hours, at least 1000 men were wounded. We were able to concentrate 20 or more surgeons at this point, besides stretcher-bearers and assistants. I was agreeably surprised to find that these wounded soldiers were so quickly cared for and sent to the rear in a very short time. Several capital operations were performed, and some very excellent work was done that would have been a credit to the most distinguished surgeons in the great centers. And all this was done without the help and appliances of a well-appointed hospital, under the cover of

a mere tent or shed, the operating surgeon doing the dressing and a great many other things at the same time. As an inspector and brigade surgeon, it was a source of great satisfaction to me to find such efficiency and skill. On another occasion, a few miles from this place, I happened to be present when 500 wounded were passed through the receiving station.

The care, dressing, and the skill in separating the different classes displayed was very satisfactory. Of course, on an occasion like this, with a number of surgeons aggregated, one or the other will show weakness and failure; but after a little experience this is recognized and the man is placed where his inefficiency will be least harmful.

Tying arteries and suturing wounds, adjusting broken bones, extracting foreign bodies, all call for anatomical knowledge that is accurate and available in a moment, and generally this efficiency is seen. It is in the prognosis concerning the future of the case, as to whether the wounds will unfit the man for any further service in the present or future, where mistakes are made most often.

Men slightly wounded and those likely to go back to service in a few weeks or months are grouped off by themselves and given immediate attention, while those who are dangerously wounded and crippled beyond the possibility of doing any further service are put in a class by themselves and sent to the rear, and, as far away as possible, out of sight. For, the effect upon a new soldier of the sight of a mangled body is worse than that of dead bodies scattered over the field. They get used to that sight, but wounded men, who moan and groan, are objects of intense sympathy and pity.

Trench fighting is very monotonous work, broken only by charges every now and then, and by repeated cannonading from either side that soon produce indifference.

The following incident will give an idea of the danger and peril likely to occur any moment. A noted member of the English House of Commons begged me to go out to the trench with him, so that he might see what was actually going on from day to day.

We visited one of the trenches that had been subject to a great deal of artillery fire during the day. The commanding officer warned us to make our visit as brief as possible, for there might be a charge along that line before midnight. On the way to the trenches, I observed a number of magazine-guns and preparations to resist an infantry charge. Groups of men were distributed all along in hollows and behind trees, apparently waiting for something to happen. We crossed a field full of holes, where shells had exploded in the afternoon, stumbled over several dead bodies, and finally reached a trench. Everything was quiet and still, but the men seemed to recognize the possibility of a charge at that point any moment. Shots were being fired continually across a space of 60 yards or more, and we could hear a lumbering sound from the other side, as if wagons were moving here and there.

After inspecting a trench or more, we started to cross an open space to the rear, when suddenly shells began to fall, and off to the right we saw a dark body of men rushing across the trenches with great impetuosity. In a few moments they were met by our forces, and a roar of guns and shouts, and the falling of shells and flashing searchlights showed that we were right in the battle-front. In a very few moments, the enemy seemed to drive everything before him and whirled around, to flank the trenches in which we were stationed. It was evident that we were going to be captured, and for a few moments there seemed to be no alternative. To run, was, to expose ourselves to death; to remain in the trenches, was, to be captured. An Irish brigade was putting up a fierce defense on the front of this column and apparently driving the enemy off on the flank toward us.

Then suddenly two machine-guns appeared on the top of a little knoll and began to rain a shower of balls on this flanking movement. A searchlight gave us flashes of what was going on, but for a few moments it seemed that nothing could stem the torrent of men that was rushing toward the trenches where we were. Then another machine-gun came into service, and the next flash of light showed the column retreating.

The ground was strewn with the dead and wounded. The roar was deafening and our anxiety was intense beyond all words to describe. Another flashlight, and we saw that the charging column had disappeared, although shots were being fired in all directions. We took a chance and ran across an open space to the little valley beyond the firing. Here we stopped and breathed easy again. My companion turned to me with the remark that, if he ever reached the rear, he would never be seen in that country again; and I inwardly resolved not to take another risk like that, which was not exactly in my line of duty. Before morning, another charge was made at this point, but the resistance

was so severe that the enemy fell back. Over 200 wounded were taken off the field and several hundred bodies more remained all the next day in sight. At night they were buried.

This incident gives one an idea of the constant occurrences along this line of battle. The impression prevails at headquarters that this sort of fighting will break up very soon and that the allies will make steady advances, driving the enemy before them every day or so, until they are exhausted. Within four weeks, at one point of the line under my observation, it was advanced about five miles and new trenches were made. Burial parties and roadmakers are constantly at work covering up the dead and making roads over the trenches and field farther toward the front. My duty to fix the location of advance field hospitals and determining the methods of reaching them and the routes back and forth requires constant studies of the locations and the many conditions needed to facilitate the movement of the wounded. Topographical engineers constantly are moving over the ground, locating springs and determining points where troops can be moved and where guns can be placed for the greatest possible effect.

The censorship has relaxed, but the officers still are very reluctant about giving names and dates and describing occurrences. The artillery fire becomes more and more accurate on both sides. The sniping along the line of the trenches is more deadly than ever, but with it there has developed a caution and the absence of the former recklessness. We have not seen any gas-bombs in this part of the line, but are liable any moment to encounter them in the frequent desperate charges that the enemy is making to keep from being driven back.

Great attention is paid to describing the location of attacks and counterattacks that are being made all along the line. These notes are transcribed and sent to the rear. In the medical department, the same accuracy of statements is called for, and these records are sent to the rear daily. It is altogether possible that no war ever has been conducted in which such accurate history is recorded, particularly by persons actively engaged in it. In the field hospital, the clerks are required to give the name and wounds of each person who passes through them. Where the wound is severe, the number of the surgeon who gave the first dressing is noted and sent along with the patient to the rear. The original records go to headquarters and from there to the war department in England.

The wounded in transit are not followed as closely, but their reception in an inland hospital is recorded. In the years to come, these records will furnish data for a great many startling facts that we now see in outline only.

"Briton."

STAPHISAGRIA IN ORCHITIS ASSOCIATED WITH LAME BACK

Twenty odd years ago a patient called on me with a well-developed case of orchitis, for which I prescribed Lloyd's specific staphisagria, 5 drops before meals and at bedtime, with plenty of water. This man soon recovered his usual health.

Now comes the point which I believe will help others, as it has helped me. After this patient got well, he told me repeatedly that the medicine I had given him also cured his lame back, a symptom which had given him almost constant trouble for ten years. Consequently, when after that a patient suffering from lame back presented himself, I gave him one dram of specific staphisagria (and a medicine-dropper), with directions to take 5 drops in a tablespoonful of water before each meal and at bedtime. This cured him. Since then, this remedy has proven exceedingly effective in lumbar myalgia, and my success in the treatment of these cases has been remarkable.

One such case was that of a laboring man, about forty years of age. When he came to me, he had been told by his attending physician that he would have to go to bed for two weeks, if he expected to get well. I gave him the staphisagria, and he went back to work the next day. He was not troubled with the back-pain again for two years, whereupon a second course of treatment with staphisagria put him on his feet again.

I can give you reports of many such cases, but I believe that the few adduced will suffice to bring home the lesson. I wish to add that the remdy never effected a cure of this trouble except in the case of men, but in them it has never failed me.

P. A. Pierson.

Spring Hill, Kan.

[Of course, we do not know the cause of the backache in the cases reported by Doctor Pierson; we do know, however, that prostatic enlargement and almost the whole range of genitourinary affections and disorders may

be the cause of pain in the back. We also know that staphisagria is a valuable nerve-sedative as well as an effective anticongestant in inflammatory affections of the genitourinary tract.

Not everyone knows, as he should, that the alkaloid delphinine is the active principle of this drug. While delphinine is but very little prescribed, it certainly is an exceedingly efficient remedy and deserves to be much more generally employed.

Delphinine is of special service in the treatment of spermatorrhea, prostatorrhea, vesical irritability, and orchitis. In the latter condition, we advise its use in association with, or alternation with, anemonin, the pungent, camphoraceous principle of pulsatilla.

Specifically, delphinine is an efficient anticonvulsant and sedative, and is said to give prompt relief in sciatica, provided it is prescribed early. It also has been employed with good result in the treatment of hysteria and chorea.

On theoretical grounds, delphinine should be of value in the treatment of lame back or pains in the back, especially when the remedy is given in association with arbutin, to disinfect the urinary tract, with sodoxylin, if the urine is highly acid, and with anemonin, if there is inflammation or irritability of the sex-glands.

What a lot of useful plant-remedies we do have, but with which most of us hardly are acquainted! We ought to devote more study to these less-known active principles. We urge our readers to follow the example of Doctor Pierson and report their experiences. —Ed.]

EMETINE IN NOSEBLEED—REPORT OF A CASE

This is the first time I have employed emetine hydrochloride in nosebleed, and it proves what has been said about it in Clinical Medicine. Here is the case:

A girl, 17 years old, started to bleed in the evening, this continuing all night. I was called in the morning. The nose was still bleeding profusely from both nostrils. I gave her 1-2 grain of emetine by hypodermic injection, and plugged both nostrils. I waited half an hour and took out the packing, and irrigated the nostrils with normal salt solution. The bleeding had stopped entirely. There was a recurrence the next day. I applied the same treatment, and there has been no recurrence since, two months after treatment. I must tell you that the girl has has nosebleed two or three times a week for the last five or six years.

J. H. Barrette.

Driscoll, N. D.

A METHOD OF TREATING HEMORRHAGE

In the June number of Clinical Medicine (p. 569), Dr. J. H. Cook tells of a failure to control nosebleed by means of emetine. If the Doctor will try the following prescription, I am sure he will have no trouble:

Alum	drs. 1
Potassium permanganate	grs. 6
Carbolic acid	gtt. 40
Water, enough to make	ozs. 4

Inject this astringent solution into the nostril, and it will stop any ordinary hemorrhage, even that of cancer. I have used this prescription for more than twenty years and have yet to see the first case of epistaxis which it failed to check.

C. C. Matthews.

Como, Tex.

[Thank you for this suggestion, doctor. We have no doubt that this method of treating nosebleed will be tried by many readers of this journal. Powdered alum alone often is effective, and there are many other excellent styptics that will control hemorrhage under ordinary circumstances. However, every once in a while one encounters a case of nosebleed which no ordinary local application will check.

It is for this reason that it is a good plan always to have a supply of emetine hydrochloride, in ampule form, ready to hand when such an emergency does arise. Thus far, it has been our experience that 1-2 grain of this alkaloid, injected with a hypodermic syringe, will stop the bleeding within a very few minutes. Rarely will it resist the second dose, given after a half-hour. Of course, the hypodermic use of emetine does not preclude the conjoint application of styptics to the bleeding area.

Has anyone else anything to suggest in cases of this kind?—Ed.]

EMETINE IN PSORIASIS AND PELLAGRA

I have seen some adverse as well as some favorable reports regarding the value of emetine in the treatment of psoriasis. In one severe case of this disease, I gave six doses of the emetine, but there was no improvement, although the patient was also suffering

from pyorrhea. The fact is, the patient has gone elsewhere, afflicted with the worst case of psoriasis I ever have seen.

However, emetine hydrochloride has done the work in all cases of pellagra in which I have tried it, and I have given it in several. I am convinced that we shall not do justice to our pellagra-patients unless we use this valuable drug.

A. L. Nason.

Maben, Miss.

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[Please, doctor, give us a full report of those pellagra cases. This is a topic in which we are intensely interested.—Ed.]

MAKING COLLECTIONS

In a recent number of Clinical Medicine, you inquire concerning forms and methods used in collections. As for myself, I have no set form. I employ the Taylor (*Medical Council*) Physician's Pocket Account Book for my charge-book, and for my collections I send individual letters to parties, making a personal appeal. Recently I have adopted the method of using a Daus Tip Top Duplicator, and am getting out "seasonable" letters, more or less personal, but a certain number being alike. I try to make it a point to send my farmer patients letters at the time their crop-money comes in, my watermen the same for the fish-catch, and so on.

I am awaiting with interest your coming issue showing the different methods. I may add that I enjoy your interesting journal very much and can truthfully say that I begin to look forward to the next issue about two days after I get the current number. I have obtained several very helpful hints from it on different occasions. You seem to get down to the point—"What shall we do for our patient," and not simply, "What rare disease has he?"

John W. Robertson.

Onancock, Va.

PYORRHEA—AN ERROR IN TECHNIC

I wish to report the results of the emetine treatment in a case of pyorrhea alveolaris, the emetine being administered by injection into the gums.

This patient had a most severe form of the disease, the greater number of the teeth being very loose. I first had a dentist thoroughly scale and clean the teeth, then gave 1-2 grain emetine hydrochloride, injecting the solution well into the pus-pockets. In six or eight hours after the injection, the patient complained of pronounced soreness of the gums, rendering mastication painful. In twenty hours from the time the first treatment was given, I gave a second injection of 1-2 grain emetine, and in two hours the temperature began to rise, going to 104° F., accompanied by nausea, but no vomiting. The temperature returned to normal in about twelve hours; however, there appeared considerable swelling of the tissues of the mouth beneath the tongue, which, though, subsided in ten or twelve hours.

The patient refusing further treatment by the injection method, I administered, internally, three tablets of alcresta ipecac (each tablet containing the alkaloids from 10 grains of ipecac) three times a day, for a period of five days, then discontinued their use for a period of one week, using during the interval a solution of emetine locally to the gums. This caused nausea, although the patient said he did not swallow any of the medicine.

The patient has improved greatly, and promptly, since the treatment was begun; in fact, the improvement has been greater and more prompt in this case, treated by injecting the medicine into the gums, than any one of my cases treated by other methods.

I should like to know if anyone else has observed such a pronounced reaction from emetine when administered by this method, also the cause of such a severe reaction. Was it owing to improper administration, individual idiosyncrasy, or what?

J. P. Kennedy.

Vancleave, Miss.

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[Doctor Kennedy made the mistake (a common one) of using too strong a solution of the emetine. Barrett showed that 1-2 percent is sufficiently concentrated, and that even a 1-percent solution may cause decided irritation. If the Doctor used the 1-2-grain dispensed in ampules containing 1 1-2 Cc. of solution, *he was applying a 2.5-percent solution;* while if the ampules contained only 1 Cc., then the solution was stronger than 3 percent. No wonder the patient had a sore mouth!

There is another possibility in this case, namely, that the tissues were infected by wounding them with a sharp needle, used to inject the emetine into the pockets. *Use only a blunt-pointed needle,* remembering that these pus-sacs are loaded with bacteria, and that care must be taken not to carry these into uninfected tissues.

The ideal method of treatment is, to use for the oral applications a 1-2-percent *solution* (not 1-2 grain) of the emetine, preferably in association with the clearly indicated antiseptics, as in boremetine. To destroy *all the amebas*, it is necessary to reach the parasites through the blood stream, and this is best acchmplifhed by injecting *1-2 gratn* ot emetine hydrochloride into the arm, once daily for three to six days. This is better than the ipecac tablets; the latter may be easy to take, but absorption is uncertain, nausea not infrequent, and the result always a matter of doubt. When you give the drug yourself subcutaneously, you have the patient under your control, and *know* that he is getting the dose he needs.

To prevent reinfection, an antiseptic cinnamon-flavored, emetine-carrying jelly, known as gelemetine, has been introduced. It should be used in all mild cases, and as a followup in all severe ones, after the cure has been gone through with.

While it is the dentist's proper function to attend to these cases, doctor and dentist always should cooperate. Medical treatment is indicated in every case; and where, as not infrequently occurs, the dentist is disinclined to give the emetine treatment, the doctor can, and should, do so, seeing to it that any necessary local dental surgery (cleaning and the like) is properly attended to. This is a big field.—Ed.]

COMPROMISING SLOW AND DOUBTFUL ACCOUNTS

Did you ever agree upon a compromise settlement with a patient, doctor, and then get the worst of the deal in the end? Wasn't it you yourself who took the initiative, named the basis on which you would settle, got the debtor to agree to it promptly, and then failed to get your money, the net result being that instead of having a $65 account on your books, for instance, you had one for only $50?

It is worth while to remember that a debtor never forgets a compromise offer or agreement. The fact that he does not take advantage of the offer when it is made, and hand over the cash then and there, has nothing to do with the case; at least, that is his way of looking at it. He distinctly remembers, however, whenever mention is again made of the account, that he owes you $50, and not $65. On that point he has a vivid recollection and nothing can swerve him from it. He owes you $50. If you should place the account with an agency ten years afterwards for collection, entering the claim at $65 (which you would clearly be entitled to do, the compromise agreement not having been closed), it would then come under the head of a disputed account, and the debtor would say: "This account is not correct. It should be $50, and not $65. The doctor told me he would settle for $50."

Generally speaking, collections cannot be forced by discounting the bills. The offer of too liberal a discount would have the effect, in many cases, of cheapening the service; or perhaps give the debtor the impression that he had been overcharged in the first place, or both.

It is very easy for a doctor to go over his books and make an estimate of probable collections during a given period, and in doing this he will see some accounts that he would be willing to cut in two in order to get the money. But is the debtor able to meet him half way in accepting his offer? Has he the ready money to pay 50 percent in exchange for a receipt in full?

A safe rule in such cases is to avoid naming any actual figures until sounding the debtor as to his willingness to settle; and then only after having investigated his ability to do so.

The spirit of compromise is the basis of success in every walk of life, but always it should be mutual, fair to all concerned. Without mutual concessions progress would be slow indeed in politics, business, and domestic life. High ideals often must be sacrificed for something more practical; radical opinions made more tolerant; the strong persuaded to help the weak. The real spirit of compromise is harmony, which is the true basis of international treaties, as well as individual adjustments, reciprocal favors from one nation to another. The margin of compromise is sometimes narrow, so that there is very little to give or take. Again, it may be extremely wide and offer glittering bargains in the way of profitable concessions.

Whenever I see the word compromise I am reminded of a young woman whom I once knew, who often pictured the man she intended to marry. With the natural youthful tinge of romance she looked into the future and saw her heart's desire. "He must be tall and commanding in appearance," she said, "with soft brown eyes, and dark wavy brown hair. He must be brave and true and tender, and always manly." Always she clung to her ideal, doubtless receiving a certain comfort therefrom, until she finally married—until she was willing to compromise, for the husband she took was a veritable antithesis of

her youthful dreams. Instead of being tall and commanding he was five feet four, his soft brown eyes were green, his hair straight and yellow. Let us hope that he was brave, even though he tipped the scales at only 110, and tender and true always. A willingness to compromise deserves something of value in return, and doubtless she received it.

I talked with a doctor friend one time on the subject of compromising slow and doubtful accounts, and suggested that a compromise figure should never be named until all the circumstances were favorable, until the debtor had the actual money in his possession, and was ready to listen to an offer. I believed all the time that the doctor was sincere in his talk about splitting the account, helping out the debtor in some way, and you can imagine my surprise at his come-back: "Why, if he's got enough money with him to pay the account, I want it all. I don't want to compromise."

C. B. Potter.

Chicago, Ill.

THE DOCTOR WHO REALLY COLLECTS

To admit, generally speaking, that the doctor is a poor business man, is, to admit that which is not true; and the reasoning of this statement is based exclusively upon the peculiarities incident to, and accompanying, the practice of the medical profession.

Just as long as the doctor is compelled to practice his profession under the present code of ethics, subject to the conditions which his profession demand, just so long will he be looked upon as a poor business man. For illustrative purposes, let us consider the following as a practical example.

The doctor receives an emergency-call to "come quick." Upon his arrival, he finds a patient suffering from a ruptured appendix, or a strangulated hernia, or a child with a stenosed larynx due to diphtheria. In this hypothetical case, an immediate operation is necessary and advised. In consequence, this will entail upon the patient the extra surgeon's fee, an expense of anywhere from $50 to $250. Now, during this moment of the patient's suffering and distress, with probably dissolution impending, I dare say none but the most heartless would even think of finances, much less exact a retainer-fee. Now, we who have had many and many such experiences and dismissed our patients in a few weeks, convalescent, if not entirely well, find that our services too frequently appreciated much in the manner so aptly illustrated in the four drawings by some artist, entitled, respectively, "God," "Angel," "Man," "Devil."

I contend most emphatically that the average doctor would make a good or at least a fair business man in other walks of life. Many doctors, I quite agree, are very poor, negligent, and even dilatory in the execution of business matters, and those are the numerous fellows (however, not bad fellows) who make it most difficult for the ones that adopt more exacting methods.

Another illustration: I was hurriedly summoned, not long ago, to a parturient woman who was being attended by a midwife. Progress being slow and the patient suffering intensely, the midwife, realizing her incompetency, declined assumption of further responsibility. The woman made an uneventful recovery and, upon my dismissal from the case after two weeks (not having been previously engaged), I unhesitatingly demanded the remuneration due me. The reply was: "You will have to wait about two months." Thus disappointed, I immediately mailed from my office a bill, accompanied by a letter, again informing the patient that my services were for spot cash and that one day during the ensuing week I should call and expect payment. As a result, when I called, part of my fee was obtained, together with a promise that they would pay the rest in two weeks. This promise was fulfilled.

When the husband paid the final amount, his protestations against the contents and tone of my letter were loud, saying that he had employed many doctors before, but they never asked for pay earlier than in four or five months. Incidentally it may be mentioned that I still retain the whole family, without exception, as one of my staunchest adherents.

It is to this patient's remark, as quoted above, that I wish to call special attention. This patient voiced vociferously the sentiments and experiences of fully 80 percent of our patients. Just because the doctor fails to mail his bills regularly the first of each month and insists upon being paid, is the reason why the doctor has infinitely more difficulty in his collections than he should.

Be it well understood, that—however unfortunate for us financially—in every instance, your patient will respond, to your invitation to pay, with his check, even if you hold back your bill for three or more months. However, keeping your client reminded each month, with an occasional notation that you are in need of that which is due you, is *good* business, and conducive to good results.

Almost invariably the patient owing you a bill upon which no payment has been made will turn against you, and just so long as that account remains uncollected, just so long you have a bitter enemy; and that identical individual will call another doctor when in need of medical assistance. Hence, have no hesitancy in demanding that which is yours, and obtain it if possible, thereby retaining the respect and patronage of your client and of the community in which you are practicing. And, needless to say, you will also have the wherewithall with which to buy gasoline for your auto, so that you may be in readiness to respond to a future call of this wouldbe non-pay client.

In conclusion, money received for medical services is only part remuneration; consequently, let us, as physicians, resort to the very best business methods at our command to secure and obtain for ourselves and children those material things which are due us, and also those things to which we have right to lay claim.

G. W. Tamiesie.

Portland, Ore.

POISONING BY BELLADONNA-PLASTER —ANOTHER CASE REPORTED

Apropos of Doctor Gregory's case of belladonna poisoning (see Clinical Medicine, June issue, p. 576), I can report a similar experience. Mrs. H. asked, over the telephone, what would help a bad pain in back. I advised a belladonna-plaster and dismissed the matter. About six or eight weeks afterward I was requested to call, and the woman said it seemed that she was growing blind, although having no pain or trouble of any kind. I found both her pupils fully dilated. She not being able to tell me what medicine she had been taking (I was not her regular physician) and I having forgotten about the belladonna-plaster I had advised previously, I told her to call her regular physician. He came, but could make nothing of the case. He then called an oculist, who, after making a thorough examination, asked the lady whether she had been using a plaster of belladonna lately; whereupon she said that she had one on now that she had been wearing for two months. When the plaster was removed, presto, the woman's eyes soon regained their normal condition. She had no other symptoms whatever of belladonna poisoning

I think a doctor is almost criminal to order a belladonna-plaster applied and forget all about it, while leaving no directions when it should be removed. I plead guilty to having been very careless, and my only excuse is in not seeing the lady for so long.

H. C. Wallace.

Hot Springs, Ark.

THE GENERAL PRACTITIONER AS A REFRACTIONIST

I have read with interest the editorial in the March number of Clinical Medicine and the article of Doctor Smith's in that for June relative to a general practitioner doing refraction-work. Personally, I am now limiting my work to eye, ear, nose, and throat, but formerly did refraction-work in connection with a general practice and so learned that there is a right way to do refraction-work and a wrong way.

The idea seems very prevalent that all that is necessary to fit eye-glasses is, to put lenses before the eye and let the patient select the one with which he sees best. That, to one who did not have a good understanding of the condition, would seem to be the lens for such a one; and that is what the optician would give. The general practitioner-refractionist would do the same. Those patients, though, are fitted (or misfitted) with an active accommodation. The accommodation has been overcoming the error till the instant the patient fixes upon the test letters; the accommodation overcomes the error or very nearly so, and the optician puts on a lens that completes what the ciliary muscle is not able to do. So, to fit eye-glasses correctly, it is necessary to apply a cycloplegic drug that will put the accommodation at rest. Then, with the retinoscope, we can positively and accurately determine the total error of refraction. When this is considered in connection with the fundus-reflex and the muscular balance, we are able to write an intelligent prescription for glasses.

When I began employing the cycloplegics, I would use the optician's method first and then that of the oculist's; and it is astonishing what difference is met with in many cases. In others, the optician's method can come very near it, but, I think, a patient will do better to go along with the error to which he has become more or less accustomed than to change him to another error to which he is not accustomed. It is the low errors of refraction that give greatest trouble, and the low errors it is impossible to correct while there is active accommodation.

Of course, this does not apply to patients who have lost their accommodation through

age. I think it is positively dangerous for an optician to undertake to refract people who are under forty years of age, and, in some cases, up to sixty years.

I regret to say that many physicians share the same erroneous idea that an optician is as competent to do refraction-work as an oculist. I hope no physician who reads this ever will make the mistake again of sending a patient to an optician to be refracted. I also hope that any physician who takes up refraction-work will study the subject till he has a good working-knowledge of the retinoscope and ophthalmoscope. If so, he will be able to detect many pathological conditions in the eye that otherwise would escape his attention.

Doctor Smith says the opticians in Iowa are required to have considerable knowledge of refraction; yet, I am sure they are not required to use the cycloplegics; in fact, I am sure the oculists are the only ones who are legally permitted to use them.

Refractioning is not the simple matter some believe it to be, and, where an optician, or a general practitioner, is able to do it right, he rises out of his class and is in company with the oculist so far as refractioning is concerned. Let me say again, that no optician is competent to fit eye-glasses, and that, if a general practitioner takes up the work, he should have a good working-knowledge of the retinoscope and ophthalmoscope.

E. S. Harris.

Independence, Mo.

TREATMENT OF GASTRIC AND DUODELAN ULCERS

Regarding your abstract of W. Wolff's article in the *Medizinische Klinik*, p. 1358, 1914 (page 451 of Clinical Medicine), attention should be called to the fact that fatty emulsions and fat generally, also atropine, have been used for a good many years to reduce gastric supersecretion. Largely on account of its ocular action, and, as a consequence, of the danger of glaucoma after early middle life, atropine is usually contraindicated, except when the patient is confined to the house, and for a brief period. Both fats and carbohydrates tend to reduce acid and probably pepsin secretion—the quantitation of pepsin being very imperfect—and a diet low in proteid, and especially meat proteid, and correspondingly high in fats and carbohydrates, is of practical value in the treatment of hyperchlorhydria. But, it should be borne in mind that not more than 125 to 150 Grams of fat can be advantageously used as a ration; also, that a sudden excess of either fat or carbohydrate may cause an immediate exacerbation of hyperchlorhydria.

It is important to consider that the association of hyperchlorhydria and gastric or duodenal ulcer is not very well established. Various specific ulcers, and those occurring in elderly persons from arteriosclerosis, are of opposite tendency, and it is questionable whether even acute peptic ulcer is especially connected with tendencies toward secretory excess. I do not recall a personal case originally appearing as hyperchlorhydria which subsequently developed ulcer.

Ewald's statistics, collected from various sources and including some as hyperchlorhydria in which the evidence is not very conclusive, divide ulcer cases about half and half between normal and abnormal acidity, and the latter half about equally between excessive and deficient acidity. I have never dared to intubate a bleeding peptic ulcer, but have never found an excess of acid in the vomitus. In cases of chronic ulcer, bleeding slightly, in which intubation, lavage, and local treatment with hydrogen peroxide or organic silver solution have been employed, superacidity has not been found. This is not to say that gastric ulcer may not occur with hyperchlorhydria. Such cases are encountered but they do not seem to be characteristic.

A. L. Benedict.

Buffalo, N. Y.

CURATIVE TREATMENT IN A CASE OF ECZEMA

Mr. A. H., a bridge-carpenter, age 54, came under my observation December 10, 1914. He complained of an eruption which covered his entire body, and this was immediately diagnosed as chronic eczema, of the papular, squamous type. The trouble began fifteen years ago as a mere pimple on the back of the left hand, which itched considerably and caused constant scratching. It then spread over the hand and forearm. Later, the same occurred on the right hand, after which it spread over the whole body. Treatment instituted at the beginning had no effect. When the condition had existed for almost ten years, the eruption began to dry up and scales formed. However, it suddenly reappeared in the shape of small papules that would break down and cause intense distress, and the patient could not sleep on anything that was soft.

December, 1914, I began treating this man, using, externally, the various eczema-lotions

Doctor Canfield's case of eczema. Picture taken Dec. 10, 1914

Same case of eczema. Picture taken Feb. 1, 1915.

on the market, while for internal use I prescribed the various remedies calculated to improve the condition of the blood; however, obtaining no favorable results. Finally I adopted the following course. For external application, I gave this salve:

Ichthyol	drs. 2
Carbolic acid	drs. 2
Boric acid	oz. 1
Lanolin	ozs. 3

This ointment was applied twice daily, and it seemed to relieve the itching instantly.

For internal use, I gave the following mixture:

Specific tincture of echinecea	drs. 2
Specific tincture echafolta	drs. 2
Water, enough to make	ozs. 4

This preparation was to be taken three times a day.

Within six weeks after beginning this treatment, the patient's skin affection had practically disappeared, and on February 1, 1915, I discharged the patient, as no signs of any eczematous condition remained, except a few pigment-spots where the large papules had appeared. The skin now is smooth and soft, there is no enlargement of the glands, and the patient feels well.

I trust that those who may make a trial of this treatment will have similar good results. The accompanying photographs were taken on December 10, 1914, and February 1, 1915.

H. A. CANFIELD.

Drain, Ore.

NEXT MONTH—CHILDREN'S DISEASES

Next month we have arranged for a series of articles upon children's diseases. We ex-

Doctor Canfield and some friends. Query: Which is Canfield?

pect these articles to be of exceeding helpfulness to every reader of CLINICAL MEDICINE. Especial attention will be given to the contagious diseases, and their diagnosis and treatment will have the center of the stage.

In order to round out this number, and fill it to overflowing with good things, we are anxious to hear from as many physicians as possible, with ideas and suggestions of all kinds. Please consider this a personal invitation to write a short item—one or two hundred words will do—for this issue. Make it practical.

Do your part, doctor. Hold up your end of the load. Get *your* shoulder under the wheel.

ANTIMONY AND POTASSIUM TARTRATE CURE OF ALCOHOLISM

On page 1289 of THE AMERICAN JOURNAL OF CLINICAL MEDICINE of 1911, I happened to see a note on McBride's "specific" for the drug habit, which reminds me of the many socalled specifics that have been advocated during the last twenty years since Keeley's "gold cure" made the professional tipster sit up and take notice.

Being a decided enemy to the bottle, I myself have waged an active campaign against drunkenness during many years, but, while I have been fairly successful in the cure of alcoholism, I am afraid that the moral perversity (or call it perversion) caused by the drug habit can never be remedied. By this I mean that the meanness acquired by habitual drunkards will stay with them even if they are cured of the habit itself.

The perversion of the sense of right and wrong in the drunkard is really astonishing. I have seen a man—a good moral fellow, kind husband and loving father before acquiring the drink habit—who became one of the most heartless brutes I ever saw. Thus, when his favorite child was on her deathbed he surreptitiously took the chicken some kind neighbor had given the mother for broth and exchanged it for drinks, and the last twenty-cent piece she had he took by force; then when the wife reproached him for his action, he snarled, "Let her go to hell, d—m her, I don't care." And that was in one of his sober moments, too.

Many times I have been sorry for curing a man of the habit, in the hope of returning to society a useful member and to his family a kind husband and father. While sometimes the results have been gratifying, more often it would have been far better to leave these wrecks alone, as then their capacity for wrong-doing would have been limited and inhibited by the vice itself.

For example: I cured such a fellow, at the instance of his wife, who, before he became a drunkard, was a hard-working man. His wife, during the brutal periods of his vice, worked her hands off for the fellow, and I was pleased over the visions of gratefulness and his love toward his faithful better-half when he should be cured. Instead, as soon as he got over the drink-vice, he became a first-class gambler, left wife and children, and went to live with a prostitute.

Another cured drunkard became the head of a band of highwaymen whose acquaintance he had made in his drunken bouts, and meanness, cowardice, and brutality were the chief characteristics to qualify him for his new calling. One man, a fellow with a big family, not being able to drink any more himself after being cured, found his chief pleasure in seeing others drink, staying around saloons and paying for this gratification by making others drunk.

On the other hand, I also remember one young fellow, a saddler by trade, a horrible-looking bloated sot, who was cured at the instance of his mother, and who in a few months became a really good-looking chap, who was able, afterwards, to build a nice home for her and help her raise and educate his little brothers and sisters. Again, another, whose wife and children only knew what misery and starvation were, he being a farmer, was enabled to change all this with one-year's crop into abundance and happiness, and the tears of gratitude of that woman were far bigger pay than large sums of money would have been.

I also find that the greater part of the drunkards do not wish to be cured. One, a woman, had been given the medicine without her knowledge, but under my supervision. She came out splendidly, but one day she made the complaint to her daughters that she certainly must be sick—although she noticed a better appetite and felt extraordinarily well—for she could not bear the smell of brandy any more. The foolish girls laughed in her face and told what had happened.

"What," she cried, "that gringo has given me some of his medicine? I'll show him. Bring me the bottle."

Closing her nose with one hand, she swallowed some of the stuff, and, vomiting this up, she repeated the dose. This performance she repeated for several days, until at last the booze staid with her and eventually killed her.

Some time after this, I told this story to a man, a decent-looking fellow whom I had treated at his own request, and whom, of all men, I thought sure of. Well, he went and did the same thing, and it occurred to me at the time that half of the energy he put forth to regain a former bad habit would have made him a successful man had it been expended in a good cause.

Of course, my treatment was very crude, as I only wanted to make it impossible for the patient to drink, without taking into consideration the natural craving of a much-debilitated nervous system. That is, I did not give any after-treatment, as I dedicated all my time to the very poor, who, in most instances, were not able to pay me either for time or medicine. Afterwards I became disgusted and quit it entirely.

Now for the system employed, but which can be improved upon, as will be seen.

First I induced my patient to get drunk. When under the full influence of liquor, I gave him, or caused to be given, a last drink, containing as a minimum dose 1-2 Gram of antimony and potassium tartrate, previously dissolved in a little water. The dose varies with the individual. I have had subjects to whom with my own hands I have given 3 Grams in one dose without securing any effect whatever. They did not even vomit. If ever I have had to give an antidote, it was with the object of stopping too violent purging and vomiting.

The next day the whole proceeding had to be repeated, although the patient might feel a strong disinclination to do so. But I used to persuade them by telling them that the day before I had no opportunity to administer the medicine, as the liquor had made him too sick—or any other tale that would induce him to drink. The procedure must be repeated perhaps twice, else the victim will relapse after a time.

The odor of the eliminations of such patients, the vomit, perspiration, and so on, is something awful. They will cry to have the bed-clothes changed; even the bed itself and the furniture seems to them to be impregnated with the vile stuff. They can not drink afterwards, even if they want to. The young saddler, mentioned above, told me that a year and a half after the treatment, feeling rheumatic pains in his legs, his mother offered to rub them with aguardiente, and this made him vomit.

Nowadays, with apomorphine at our disposal, I should use less of tartar emetic, and then, if the latter did not respond satisfactorily, a hypodermic of apomorphine would help things along very nicely. However, I should always use antimony and potassium tartrate, as it is the drug that will create a persisting intolerance for liquor or for anything else for which it is given.

It is wrong, though, to allow a man his craving without permitting him to satisfy it at all. It seems to me that such an individual lives in a constant hell. To combat it, build up the nervous system, so that the desire for strong drink may die out. For this purpose, we have strychnine, caffeine, and a host of other nerve stimulants. The capsicum and nux vomica tablets are indicated here, as the patient, who might refuse to take them before treatment, will certainly take them afterward, as the nervous system fairly yells for stimulants—a desire which then cannot any more be satisfied with alcoholic beverages.

All patients are not alike. I gave a man, twice, doses of 3 Grams of tartar emetic, and he never stopped drinking a day. Nevertheless, what I have described is a good, and what one may call a "sure," treatment, all the same.

A. R. Hollmann.

San Miguel Allende, Gto., Mexico.

[The accompanying article from Doctor Hollmann was received several months ago. Can anyone offer experience with drink and drug cures? We shall be glad to have them. —Ed.]

RUBBER GLOVES FREE!

The Miller Rubber Company, of Akron, Ohio, is making such a remarkable offer, in its announcement on advertising page 47, this issue, that we want to be sure that every reader notes it. This company will give any physician a pair of their rubber gloves, absolutely free, and without any "strings." Look up the details on the page mentioned.

APOMORPHINE RELIEVES GALLSTONE COLIC AND ECLAMPSIA

I venture the following therapeutic suggestions, the value of which trial will prove:

In gallstone colic, nothing equals the results obtainable from apomorphine hydrochloride, gr. 1-10, hypodermatically. This I have known for fifteen years.

Apomorphine is also the first drug to consider in puerperal eclampsia; and often it is

all that will be needed for the relief of this condition.

J. J. Chapman.

Nellie, Mich.

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[Which reminds me that our Eclectic friends have great faith in lobelia, hypodermically administered, in all spasmodic conditions, gallstone colic among them. Like apomorphine, it is a powerful relaxant of spasm. Lobeline sulphate is (in my opinion) the form of choice.

I know of the great value of apomorphine in these gallstone cases, and urge other physicians to try the medication advised by Doctor Chapman. Apomorphine may be used in association or alternation with atropine and glonoin, when there are symptoms of shock. It is good practice to use these non-narcotic drugs when possible.—Ed.]

THE TREATMENT OF SCIATICA

I have just read an article upon sciatica in the March number of Clinical Medicine. You ask who has anything else to offer upon this subject. Very well, I myself have been a great sufferer from sciatica and lumbago, and at times have been so that to move hand or foot was agony. The theory that an unclean intestinal canal is to blame for the trouble, I grant, is correct in part; however, there is a swelling of the nerves in their sheaths where they make their exit through the foramina. Personally, I have obtained the most and the quickest relief in the following manner:

First clean out the bowels quickly and thoroughly with calomel, podophyllin, and bilein. For the pain, apply moist heat to the affected limb. Internally, give a teaspoonful, every thirty minutes, of a mixture containing 30 minims each of the specific tinctures of cimicifuga, gelsemium, and bryonia, in 4 ounces of water. The bowels are disinfected with the best intestinal antiseptic I know of—the compound sulphocarbolates.

By means of this treatment, I have succeeded in securing quick and lasting relief. Sometimes I add to the foregoing mixture an equal quantity of arnica and apocynum. Instead of the fluid preparations, the concentrations may, of course, be employed, if preferred. Through my own personal experience, I know that this treatment is successful. I have used aspirin and other salicylates, but, on the whole, prefer the method outlined.

One thing I have noticed is, that my urine always becomes a deeper yellow before an attack. Also, gas forms in the bowels, although I am never constipated.

Ira A. Marshall.

Ironton, Mich.

"SCRATCHES"—HELP WANTED FOR THE DOCTOR'S HORSE

I have been interested in the articles on "The Doctor's Horse," and now wish to ask about my own horse. My driving-horse has the scratches the year around. I have tried nearly everything, locally and constitutionally, but without avail. The only thing that has done any good at all is a preparation of pine-tar, paraffin, vaseline, mercuric nitrate, and zinc-oxide ointment, applied with a paint-brush. The disease does not cause much bother until the roads begin to get muddy; after that, I must keep on treating all through the winter, else the scratches will break open and bleed upon exercise. They are not sores, but hard and sort of calloused, and are located just under the heels, on all four feet, the worst in front. The horse stays in good condition and the kidneys seem to work very good, although there is a little inclination to be constipated. The trouble has never gone above the heels.

M. E. Bovee.

Maple Ridge, Mich.

[This letter was referred to our friend and colleague, Dr. N. S. Mayo, secretary of the American Veterinary Medical Association, who has made the following comment:

"Scratches," or "grease-heel," is a chronic inflammation of the skin in the region of the fetlocks, or heels, of horses. The disease is more common on the hind legs, because the horse frequently is compelled to stand in dung and filth, which favors infection. Wet, muddy roads, particularly in winter and spring, also favor the development of scratches.

Scratches is caused, in most cases, by organisms that invade the sebaceous glands, which in that region are large. The irritation stimulates the fatty secretion from these glands and thus gives rise to the common name grease-heel. Where the irritation is continued for a considerable time, undue proliferation of epithelial cells takes place, as described by Doctor Bovee.

The treatment should be directed toward destroying the causative organism, and the following procedure usually gives good results:

The hair is clipped off over the infected area and the part cleaned (but once only) with white soap and warm water, carefully removing all crusts. Then use antiseptics. Try a 1 : 1000 solution of bichloride of mercury, applied hot on absorbent cotton and kept on with bandages for several hours. The cotton should be freshly saturated with the hot solution every hour. A weak solution of formalin (not over 1-percent strength) also gives excellent results in some cases. The formalin must be kept on for not more than one hour. After applying such a watery antiseptic solution, dry the affected area thoroughly, then apply an alcoholic antiseptic: pure tincture of iodine or a mixture of equal parts of compound tincture of benzoin and oil of tar also is excellent. Apply either of these twice daily for one or two days. If the iodine proves too irritating after the second application, discontinue it. After employing the alcoholic antiseptics, apply a good antiseptic ointment twice daily. The one you describe is very good. The ointment should be applied freely, not only for its antiseptic effect, but to protect the diseased parts from water. Moisture aggravates the trouble.

The horse should be kept in a clean, dry stable, or, better, be allowed to run in pasture when the latter is not wet with rain or dew. The fact that your horse has the disease on all four legs would indicate the need of systemic treatment.

It is probable that a run in the pasture during the day will overcome the constipation. If it does not, tablets of aloin, followed by iron, quinine, and strychnine arsenate, with nuclein, in tablet form, would be indicated, or else Fowler's solution of arsenic, in 1-2-ounce doses once or twice daily. The horse should have an ounce of common salt twice a week. It should get relatively little corn in the grain ration during the treatment. It may be necessary to repeat the course of treatment.

During wet or muddy weather, the heels should be greased with a mild ointment or stiff vaseline before the horse leaves the stable, and when it comes in wet, from mud or perspiration, the heels should be wiped dry with cloths and an antiseptic ointment applied.—Ed.]

HOSPITAL SURGEON VERSUS COUNTRY DOCTOR

On Sunday, January 17, I was called to Washington to my daughter-in-law. She had a severe uterins hemorrhage the night previous and had called in a doctor, who administered ergot, then removed the clots—nature's remedy to stop bleeding. I found the patient very weak from the loss of blood, but, as the flow was checked, I did nothing, awaiting the Doctor's visit on Monday afternoon. I then suggested the substitution of calcium phosphate, atropine, and Buckley's uterine tonic, to which the Doctor consented. As the patient was doing well, I returned home on the 20th.

The next day, however, the Doctor came and upset my plans, and gave a prescription for medicine costing $5.00, one bottle of pepto-mangan with 1-3 grain of strychnine, for which $2.00 was paid.

January 31 I was again summoned, as there had been another flooding the day previous, and so much ergot had been taken that the patient vomited everything given. An ice-bag had been applied all night. Upon arrival, I took charge of the case and had the Doctor notified to stay away. Doctor Burgess states that a needle prick over the pubis will check uterine hemorrhage, but I put a hypodermic of atropine, 1-50 grain, at that point, and administered calcium phosphate. The flow was checked. Atropine, gr. 250, and calcium phosphate were continued until February 3. I took the patient to my home, 50 miles in the country, to prevent any further opposition to my treatment. Buckley's uterine tonic with the calcium phosphate and atropine, gr. 1-250, occasionally, completed the treatment. The patient remained in bed one week, and all is well.

Vaginal antiseptic tablets were used without the douche. The surgeon wanted the patient taken to the hospital and the body mutilated, which is too often done.

Geo. Roberts.

Lincoln, Va.

[Nothing develops resourcefulness like country practice, and the doctor who has learned his lessons by fighting his battle alone, is likely to be a strong, self-contained, and successful man, knowing disease, and knowing his tools.

Doctor Roberts knows these drug tools, as this story of a battle fought and won clearly proves. There are other good remedies for the control of hemorrhage beside surgery and ergot—but too many doctors forget this fact. Atropine is one of the best of them; the lime salts are often indicated; and toners of uterine muscle like Buckley's wonderful combination do valiant service.

Other good remedies for this purpose are hydrastinine and emetine—newer and not known so well as some others, but invaluable under certain conditions.

We like these reports—and we want more of them. Let the "sharpshooters" step into the front rank and show the rest of us what they can do. Who will be first?—Ed.]

AN ALABAMA ALKALOIDIST

I have been using the alkaloidal remedies for many years and should feel lost without them. The fact is, I have worn out several leather cases filled with the active principles, and much of my success I attribute to the prompt results secured with the little granules.

I use the sulphocarbolates for intestinal antisepsis almost exclusively and find an ever widening field for calx iodata. The triple arsenates, salithia and saline laxative are of special value in this warm climate. Also, I simply cannot do without aconitine, emetine, gelseminine, brucine, dosimetric trinity and the defervescent compound when treating children's diseases. The simple truth is, that I have used practically all the various active principles and synergistic combinations and I should not know how to do without them.

If any of the readers of Clinical Medicine wishes to pick out an ideal winter-home for his patients, he should send them to Fairhope. Our town is fast becoming a popular resort for northern people and especially for people living in Chicago. We shall be glad to welcome any of your friends.

C. L. Mershon.

Fairhope, Ala.

[The best evidence we can present regarding the attractiveness of Fairhope is, to reprint the postcard picture of Doctor Mershon's home, which he has sent us. Judging from this, Fairhope is "hard to beat." Evidently, things are going well with Doctor Mershon, at least he has a very beautiful home in a very delightful climate—therefore, he is to be envied. We believe, and hope, that the use of the alkaloids has had not a little to do with his success.—Ed.]

CURRENT COMMENT BY A COUNTRY DOCTOR

That Postgraduate and Vacation Trip.—Ever since we failed to take our vacation-trip last year, the anticipation of it has been a source of infinite family pleasure for this year. The debate first was, whether it should be a plain American trip or a little European visit. Then came the war, and with it abandonment of the European element of discussion. The writer always has insisted that there was too much to learn right here in these United States, anyway, to justify a hurried European chase for mixed sightseeing and grabbing for stray bits of knowledge from learned individuals, ranking no higher in attainment than our own investigators, while using unfamiliar tongues.

A view in Fairhope, Alabama, with Doctor Mershon's home in the foreground, at the right.

The language-feature brought out the brand-new idea of taking a South American trip. I wonder why do not more American physicians speaking Spanish take a trip on their own hemisphere, now that commercial, social, and scientific relations are cementing between North and South America. There is plenty to see, even without exploring the hinterland for new rivers. Medically, our South American colleagues are well to the front, both in point of modern investigation and standards of medical education. The writer believes that an interchange of ideas with the Latin-Americans would do the American physicians good, especially those of the gulf-states.

The writer does not know in detail what facilities are extended to foreign investigators in the South American republics, having personal familiarity with but one Latin-American country—Mexico; but he has no doubt that they are ample and characteristic of the hospitality of the race. A trip through the Canal—we all want to see the Canal—thence around the continent, with visits at the various seats of learning and hospitals, not only would be enjoyable, but helpful.

Spanish would be the language needed on the trip, except when Brazilian stops were made. Bahia and Rio de Janiero could not be missed—and when one speaks Spanish, he almost has a working-knowledge of Portuguese. A great impetus to the study of Spanish has been given since the European war, and the writer is glad to see this. For one reason, because, of all the Romance tongues, Spanish is the easiest language to acquire by English-speaking individuals and students of derivation. At the breaking up of the western Roman empire, the Pyrenees formed such a protection to the Iberian peninsula that there was less frequency of barbarian invasion, while the Saracen conquest proved a real blessing. It was this branch of Saracen stock that kept alive the flame of knowledge which they found in Europe and, through the socalled dark ages, added to it their own more advanced scientific conceptions. In one part of the then, as now, turbulent world, there existed the phenomenon of race and religious toleration to an extent that forms almost a historic paradox. Here were Christian, Jewish, Mohammedan, and crude Visigothic pantheists dwelling together, making evolutionary progress despite alien rule. Hence, the comparatively pure Latinity of the Spanish language. If one has acquired a little Latin, Spanish is easy to learn, and remember: merely think of the English synonym or near-synonym of Latin origin, and usually you have the memory-key to the word wanted.

But, with all the tour planning, beginning with Europe and ending with a trip to the A. M. A. convention at San Francisco, with the long-put-off chance to compare the present West with that of days before the barbed-wire fences and big irrigation projects (not omitting another look down into the state of Arizona's big crack, said to be just as deep as when we got our mail in Arizona Ter.). However, the drop in the price of cotton caused a complete change of all tentative plans.

As revised, the postgraduate work will be done by means of increasing the subscription list of live medical journals and by reviewing and enlarging upon knowledge on certain special lines. No need of a doctor's losing out on his P.-G. work at the prevailing rates for good literature.

As for the vacation! That also is arranged. It will be taken on the popular instalment plan. The first instalment was taken recently. When the Warrior River met the ancient sea in its partly successful effort to tear down the end of the Appalachians and turn the ocean into a fertile cotton-field it left a few holes that now are small lakes. One of these is within riding-distance and, if there are no preventing cases on hand, it is somewhat of a high-grade vacation to go there fishing. Did the writer catch many fish? Well, no! But what of the ride in the dawn through fields and swamps, with the songs of the awakening birds and the wealth of wild flowers to see as the light breaks? How about bailing out that old boat and paddling through the cypress "knees" out into the lake?

Those cypress knees themselves are an awakener of a thought train. Nature has seized upon the most available way to perpetuate the species in the swamps and caused little projections to put forth from the underwater roots, which gradually become cone-shaped protrusions above water and ere long are trees themselves, ready to continue the spread of the root-system in the ooze at the shallow bottom. Out on a log were three or four young turtles about the size of a half-dollar, to remind one of schoolboy discoveries. A little blue heron perched for a moment on a low limb before disappearing into the swamp and two green herons flapped away to safety, while a pair of "didappers" took the water route, with the same destination. A throng of other creatures made their getaway, betraying their presence, or rather where they had been present, only by rustling or gently

swaying water-plants. The colored population claim that the lake is the habitation of an enormous "gater." Once we saw its nose and eyes, but straightway it changed into a sunken log. The writer always carries his "snake-bite cure," $KMnO_4$, but never even saw a moccasin. Did he catch any fish? Not a bite. But, CLINICAL MEDICINE space is too valuable to give a full description of that trip to Monette Lake.

That Collecting Problem.—The subject of collecting accounts rightly is receiving the attention it has been crying for for years. The problem in the South probably is more acute than elsewhere and in some ways harder to meet. In many localities, we are compelled to carry our accounts for an annual fall-settlement; and, as always, there is the tendency to put the doctor last on the list. While realizing the tightness of the times and the extraordinary calls both for charity and leniency, it is due ourselves, as well as our clientele, that we insist upon our bills being considered just as important as other obligations. The followup idea on overdue accounts is a good one; in fact, an essential. The recent suggestions in CLINICAL MEDICINE along these lines are excellent, and the writer here submits one of his own followup letters.

My Dear Sir: I was disappointed in not receiving your check for the small last-year's balance due, after again mailing the statement, with special request therefor.

The public rightly expects a high degree of efficiency in service from the modern physician; supplying this requires money. My capital is too limited to permit me to carry balances far beyond the maturity of accounts.

Failure on your part to send me the small balance above alluded to is, I am convinced, either because of nonrealization of the facts or through oversight because of the multiplicity of other things demanding your attention. In either event, I thank you in advance for a check by an early mail.

Medicines are higher than in many years, and I need the money.—Very truly yours.

The idea is, to compel attention to the fact that the profession of medicine, under the present social system, is just as dependent upon the commercial rule of business-life as is any other *business*. Proper system and due firmness, cooperated in by the physicians of a community, soon can bring the public up to this understanding. We must help ourselves; no one else will attend to this problem for us. While hoping that the care of the sick, as well as preventive medicine, will eventually be assumed as a duty of the State, the writer realizes that, this not as yet being the case, it is the duty of the profession to keep abreast with the methods of the day. It is an absolute essential of self-preservation.

Strange developments sometimes occur as incidents of an effort to collect, but one of the most peculiar that ever has happened to the writer occurred very recently. He followed up the "followup" system by declining to make a night-call, considering the source of it to be the very ultimate active principle of unappreciative deadbeatism, if the expression may be coined. The next day came a little girl with two paper sacks and a sarcastic note. In one sack were eleven empty bottles (two of the patent-medicine panel variety), the others bearing his own label and legend, "Kindly return when empty." It was the other sack that was the poser. It contained a wilted head of spring cabbage. The note read, "This is because you were so good in coming to see me the other night when I was so near dead." Anyway, whether this was "coals of fire" or bucolic wit, the profession as a whole is better off. Another doctor was called and paid in real circulating medium, and the grateful recipient of the stale cabbage feels that he is relieved of a load of professional responsibility, as well as of a financial burden he can ill afford, not to mention annoyance through the usual complaint and utter dissatisfaction from a family allowed to impose on a physician far too long.

Once, many years ago, the writer had an experience which might equal the one just related; both are filed in the same group of memory-cells. After having consultation and judgment confirmed by an older man, the sending for the soon-to-be family-survivors—so supposed—as well as for the family religious advisor was consented to. It seemed that everything had been done, even to the normal salt solution; but the writer then was young and hopeful and staid right there for an all-night vigil, with the result of proving a wrong prognosis. Was there profound gratitude for faithfulness and use of the newer resources of medicine? No, but the worst "balling out" it has been the privilege of many to hear. A "ballout" for being an ignorant fool and putting decent, hard-working people to such expense and scare for nothing!

Feeding in "Summer-Complaints."—No line of treatment will give proper results in the various forms of summer ailments of the infantile digestive tract without proper dietary regulations. The writer's experience leads him to the conclusion that the main error in diet is, overfeeding. He starves to the text-book point, and then a little more. Results bear him out in his conclusions. Inflamed surfaces do not properly secrete digestive fluids, neither do they absorb products of

digestion. It is just the same as trying to work a sore hand—it makes more inflammation.

Where no trained nurse is in attendance, the main trouble will be with the parents. Here is where again that "big bottle" comes in handy.

Dissolve the combined sulphocarbolates (intestinal antiseptic is selected) in plenty of water, flavor, and give a deep coloring with caromel. Tell those people that all elements just then necessary for nutrition are combined with that medicine. This will be true as an axiom. When the time comes to start feeding, do it carefully, whether barley-water, buttermilk or other nutriment be given. The writer makes it a routine here to use pepsin and papayotin as a digestive aid. Absolutely no harm is done if nature does not need these; if she does, they are at hand.

If a cholagog is needed, leptandroid can be added, in very small doses, or its synergist, irisoid. By the use of these in minute divided dosage, this effect can be maintained after an initial course of calomel. They can be combined with other medication or alimentation.

A. L. Nourse.

Sawyersville, Ala.

PTOMAINE POISONING

Acting upon your invitation, printed in the May number of Clinical Medicine, to send in reports on experiences with diarrhea and food-poisoning, I venture to submit the following:

During the summer of 1913, and only a few weeks after I had received my diploma, I went up into the northern part of Michigan, to take the place of the regular camp-doctor in the summer camp of the engineering department of the University of Michigan. One Sunday the cook ordered a lot of dressed chicken. After dinner some of the boys complained that they did not feel very well, but did not consider themselves sick enough to need a doctor. At supper we had the rest of the chicken, which had been picked from the bones ahd mixed up with a gravy. In that way the meat from all the chickens was thoroughly mixed. About 1 o'clock in the night, I was awakened by cramps, but after my bowels had moved I went to bed again. The stool was soft and of very offensive odor; it also caused a burning sensation on the external parts. I had to get up twice more, the last time being at 5 o'clock.

When I got up the second time, I took a dose of homeopathic arsenicum album of the thirtieth potency. Every time I got up I saw others moving around in the camp, so, the third time I dressed and got ready for the rush that I knew would come as soon as the camp was officially awake. I fixed some of the arsenicum in water, and when a sick man came to me I gave him a dose of the arsenic 30*x*. Later, when the men started out to work, I gave to each of the groups, as they went out, a vial filled with sugar disks of arsenicum 30*x*; ordering them to take two of the discs after every bowel movement. In all, there were 73 men in camp, and out of that number about 50 were affected. So far as I could find out, not one of those who had taken supper at the camp mess escaped.

The general symptoms were as follows: colicky pain in the abdomen, together with a feeling of nausea and weakness; a few also had vomited. The stools were dark-colored, of offensive odor, and caused excoriation of the anal mucous membrane. The victims were greatly prostrated. By night all were relieved of the diarrhea and pain, and quite a number were over the feeling of weakness. Next morning all were well.

F. F. Fellows.

McMinnville, Ore.

[So far as we can judge, the epidemic of food poisoning reported by Doctor Fellows was of rather mild type. Otherwise, the first appearance of symptoms would not have been so long delayed after the meal, nor would the condition have yielded so readily to treatment. In severe cases there is continuous vomiting and purging, dejections sometimes blood stained, often symptoms of prostration with not infrequently terminating in collapse. The indications are for quick and complete emptying of the alimentary canal, and for *support*. Empty the lower bowel with enemas of hot salt-solution, clean out stomach with the tube, and give calomel. Stiffen the heart's action with strychnine, digitalin and glonoin; apply heat to body and extremities; relieve pain with morphine, or with hyoscine and morphine in small dose; and order absolute quiet, patient being kept on his back. A pronounced case of ptomaine poisoning is always alarming and often dangerous.—Ed.]

TWO HARRISON-LAW PROBLEMS

When the Harrison law went into effect, a physician had 10 or 12 grains of morphine sulphate, which he desired to exchange for morphine tablets. The local druggist re-

fused. Would he have violated any law in making the exchange?

A physician was treating a morphine-habitué by means of a gradual diminution of the dose. From 16 grains a day, he got down to 1 grain. He was called away for several days, and his supply of morphine became exhausted. They called up the man's doctor by telephone, a dozen miles away, whereupon he telephoned to a druggist to furnish the patient 2 grains of morphine dissolved in 1 ounce of water. The druggist refused to do this, and, consequently, the unfortunate patient suffered terribly. Had the druggist filled it, would he have run any risk?

R. O. G.

——, Montana.

[The exchange referred to in the first paragraph of R. O. G.'s letter could be made in a perfectly legitimate way. The bulk morphine in the physician's possession, appears, of course, in his affidavit, made on March 1, of narcotic drugs in his possession at that time. Being a "dealer" under the law, he can legitimately sell morphine as well as buy it, but he can only sell to a registered dealer—a retail pharmacist, for instance. The transaction can be made in this instance by asking the druggist to fill out one of the regular narcotic order forms for the bulk morphine, handing the original to the doctor and keeping the duplicate himself. Then, if the doctor wishes to buy morphine tablets in exchange for his bulk morphine, he, in turn, will simply make out the proper order form, in this case keeping the duplicate and handing the original to the druggist. Done in this way, such a transaction is perfectly legal and proper, and cannot be criticized by anyone. The original and duplicate order forms provide vouchers covering the entire transaction.

The question raised in the second paragraph takes up the legality of a prescription over the telephone. Technically, the druggist was exactly right. Neither the law nor the regulations permit of his supplying morphine to a patient without a prescription from the doctor. He was within his rights and within the law, and could not properly do otherwise than as he did in this instance. However, I am sure there are many druggists who would strain a point, providing the doctor was a friend of his and could be depended upon to turn in a prescription for the morphine supplied the patient immediately upon his return to town. The main thing, of course, is that there shall be some voucher for every transaction of this kind. However, we question the wisdom of asking any druggist to be "accommodating" in cases of this kind, except, possibly, in cases of direst emergency. Under such circumstances, we are sure that our federal officers would not be hypercritical.—Ed.]

SMALL BABIES—HERE ARE A FEW

After being challenged by Doctor Campbell and exhorted by the editor, I began to wonder whether I did not have some of those tiny youngsters on my own obstetrical list. Sure 'nuff, after a moment's reflection I remembered that I had in my possession documentary evidence in this particular line—not that I can beat the Texan in downright lack of avoirdupois, but in point of numbers I believe I merit consideration.

I will just report three births, namely, two single births and one plural birth (twins) as being the smallest in my experience, although I have had several in which the babes came within a pound or two of being just as small.

Mrs. M. W. was delivered on January 18, 1914. The baby's weight at birth, with clothes, was 2 1-2 pounds.

Mrs. C. W., confined March 29, 1915, had a baby whose weight, including clothes, was 2 1-2 pounds.

Mrs. J. C., confined June 8, 1914, bore twins, and these weighed 2 pounds and 3 pounds, respectively.

These babies, all born one or two months before term, are doing splendidly at the present time. The first infant mentioned, who weighed only a little over 2 pounds at birth, and whom nobody ever expected to "pull through," has now increased in weight to 26 pounds at the present writing, being now 17 months old.

The second infant is still very delicate, but weighs at present 6 1-4 pounds, at the age of 2 1-2 months.

The weight of the twins has increased in one year to 14 and to 16 pounds, respectively.

I have no photographs of these infants, as the parents never had any taken. In the main, their general appearance is somewhat similar. Instead of being plump and well nourished, all have, at birth, a bluish, withered appearance, the extremities are thin and emaciated, and the skin is drawn tight over the forehead and cheeks. The whole body, with the exception of the soles of the feet and the palms of the hands, is covered with lanugo. The features are pinched.

The first two babies were wrapped in absorbent cotton immediately after birth, after being well rubbed with olive-oil. The inunctions were continued steadily every day, instead of bathing them in water. The bodily heat was maintained by hot-water-bottles along the sides. They were fed every hour or two with freshly drawn mother's milk, given with a pipette, the amount being gradually increased as they improved.

By referring to Hirst, in this connection, I find that "the mortality with incubation and gavage has so greatly improved the chances of a premature infant that at six months, according to Tarnier's statistics, 22 percent are saved; at seven months, 38 percent. From an analysis of 932 premature births, Charles found that, at six months, 10 were saved; at six and a half, 20 percent; at seven, 40 percent; and at seven and a half, 75 percent."

H. G. Henriksen.

New Market, Minn.

WHISKY AND BRANDY EXCLUDED FROM THE PHARMACOPEIA

Too late for editorial comment in this number of Clinical Medicine comes the news that the Committee of Revision of the United States Pharmacopeia has decided, by a vote of 26 to 24, to exclude whisky and brandy from the new edition of the Pharmacopeia, now nearly complete. It is said that this action is due largely to the work of Dr. Harvey W. Wiley.

We have very little respect for alcohol as a medicine, used in any form; we know there are better stimulants, and better sedatives. But—isn't it a "drug," after all? Isn't it used habitually as a "medicine" by thousands of clean, skilful, able physicians? If so, should it not be recognized *as a drug*, and proper standards of strength and purity, and suitable directions regarding adulterants be provided for the protection of the physician, the guidance of the pharmacist, and the welfare of the patient?

Just what the status of whisky and brandy will be, legally, especially as regards sales by the pharmacist, we are not yet prepared to say. There will be many expressions of opinion on this subject during the next few months, and they will be given a hearing later, in these pages. Perhaps this decision on the part of the Committee of Revision may help to drive home another nail in the coffin of old King Alcohol. Let us hope so. If it does *this*, it will be worth while. But will it have this effect? Who knows?

We are waiting for more light.

AN UNFORTUNATE OBSTETRIC EXPERIENCE

In September, 1913, I confined a woman, 40 years of age, mother of 8 children, and who had had 9 miscarriages, 3 of them at six months, 2 at five months, and 4 at three months—this all in twenty-two years of married life. She had been suffering labor-pains for three days, without engagement of the head, and so I used the forceps before she should become exhausted. It was a high forceps operation, but, while the woman recovered in the usual normal period, the child, which weighed 12 pounds, died from convulsions on the third day.

On March 3, this year, I again confined this woman, and was requested not to use the forceps unless the labor were very prolonged. The bag ruptured early in the morning and the pains became severe about 6 in the evening. I was called at 10 o'clock, and concluded that in all probability the forceps might have to be used soon, as the child was large, with a large head. Progress was slow and the suffering severe; so I administered half a tablet of H-M-C, gave the second half in two hours, and a small quantity of chloroform during the next two hours. The baby was born at 4:30 a. m. The placenta was delivered in a few minutes. The following contractions were firm.

The mother expressed herself as feeling fine and had no remembrance of the long labor, although she had seemed to the domestic nurse to be suffering quite severe pains. The child was a 12-pound robust boy. At 10 o'clock of the forenoon afterpains became very severe, almost continuous, for which a few doses of paregoric were given by the nurse. When I saw her at noon of the next day, the patient was very tympanitic and in pain, the abdomen was very tender, the temperature was 100 degrees and the pulse rate 110. The lochial discharge was offensive, but the color was good and the quantity seemed sufficient. Incomplete rupture of the uterus was diagnosed, with subsequent infection—septic peritonitis. She died on the the third day. Necropsy was objected to.

R. J. Smith.

Bancroft, Ida.

[In a later letter, Doctor Smith says there is strong probability of a syphilitic factor,

which might account for the degenerated condition of the uterine muscle. Has anyone a comment?—Ed.]

PICKUPS, HERE AND THERE

For two years we have suffered an indefinite sense of something wanting; and now we recognize the cause—E. S. McKee has been all that time in the old world. But the mystery deepens. How any live man could stay away that long is hard to explain; but he is returning to Cincinnati! Give it up. Going around the world must be a tougher proposition than we thought.

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Half the women operated upon for abdominal affections go on the table for gonorrhea, and one-fourth of the blind have lost their sight from the same disease.—Porter, *Southern Practitioner.*

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Segregation has failed. The diminution of venereals in the U. S. Navy has been remarkable. This is due solely to a method of personal protection.—Porter.

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When caffeine depresses the vasomotors and lowers blood pressure, theobromine-sodium salicylate first elevates the pressure, and later lowers it.—*Amer. Jour. Med. Sciences.*

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Twilight sleep in obstetrics.—This is an ideal form of treatment in patients suffering from cardiac disease.—Rongy and Arluck, *Medical Standard.*

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Tonsillitis: Hot bath and salts; aconite in early stages; phytolacca when cervical glands enlarge; macrotys for muscular soreness; gelsemium for cerebral congestion, with headache; polygonum for arrested secretions, harsh dry skin, and tensive muscular pain.—*Eclectic Medical Journal.*

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Chromium sulphate is indicated by fibroid degeneration and neurotic tendency: 4 grains four times daily, on empty stomach and with plenty water.—C. E. Dash.

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Dash has succeeded with chromium sulphate in chronic interstitial nephritis and enlarged prostate gland, but failed in exophthalmic goiter.—*Eclectic Medical Journal.*

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Gelsemine fills today so much of the field hitherto monopolized by morphine, that it offers us the best agent with which to contest the use of morphine that leads to the abuse.—Waugh, *Medical Summary.*

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For years I have met dysmenorrhea with helonin, beginning two days before the expected paroxysm amd continuing until the flow was painlessly established.—*Medical Summary.*

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In threatened abortion, it may be that rest in bed has done the good, but, if there is anything in clinical observation, viburnum had afforded decidedly better results.—*Medical Summary.*

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Bayard Holmes continues his studies of dementia præcox, in *The Chicago Medical Recorder.* He concludes that the disease is a peripheral infection that destroys the chromaffin elements of the adrenals and sex-glands, profoundly affecting the thyroid and parathyroid glands, the thymus and brain. Preventive measures should reduce insanity to one-fourth its present prevalence here.

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Bromide in the treatment of epilepsy is a distinct, a cardinal failure, an absolute mistreatment, so far as curing the patient is concerned.—W. Held, *Chicago Medical Recorder.*

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One by one, the alkaloids have forced their value upon the profession, and have become established in a position from which they will never be dislodged.—Ellingwood.

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It is not unusual to see anal fistulas treated by means of medicinal applications continued for months, with no apparent progress toward recovery.—F. B. McCarty, *Illinois Medical Journal.* (First dilate the sphincter, then apply solution of iodine in oil.)

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Indicanuria is due to excess of proteins in a sluggish bowel and the presence of indologenous organisms flourishing in nonacid media. A permanent installation of the bacillus bulgaricus in the bowel, with rational diet and daily emptying, is the surest safeguard.—B. Stow, *N. A. Journal of Homeopathy.*

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The North American Journal of Homeopathy devotes one page to discussing bryonia and 20 pages to defining Homeopathy. Rather late, isn't it?

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Metatarsalgia is the one ailment of the feet in which a metal support or insole is justifiable. —F. S. Lower, *Illinois Medical Journal.*

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

IT is claimed that the patient usually recovers in five or six months, if he stops the use of tobacco during the first stage; in a year or so, if during the second stage; after the third stage the disease tends to pass into dementia.

As the patient often becomes (especially if smoking cigarettes) an habitué ere puberty, proper development and a balancing of the sexual and intellectual systems are checked. These patients break down mentally and physically between 14 and 25 years of age. The moral delinquencies other than sexual consist, often, in an especial tendency to forgery and deceit of parents. These most often are owing to the insanity of puberty (hebephrenia) being precipitated by tobacco. The cigarette, if used moderately, may be a sedative, but, as commonly used, is a stimulant, resembling in reaction morphine; affecting animals in a somewhat similar manner. Since tobacco turns the salivary glands (which are concerned in the digestion of starch) into excretory organs, it leads to imperfect digestion of starch, with consequent irregular fermentation in the bowel; thus at once furnishing a culture-medium from which microbes form more violent toxins and also create leukomaines, which interfere especially with a nervous system overstimulated by nicotine. This is one great reason why those who snuff and chew tobacco more frequently become insane than smokers, albeit the latter are not exempt.

Statistics from the female employees of the Spanish, French, Cuban, and American tobacco-factories—while they are defective and somewhat vitiated by the coexistence of other conditions producing degeneracy—clearly support the opinion that the habitual poisoning of women by tobacco, whether through personal use or living in a tobacco atmosphere, consequent upon occupation, is frequently the cause of miscarriage, of high infantile mortality, of defective children, and of infantile convulsions. Tobacco, in its influence upon the paternal and maternal organisms, so exhausts the nervous system that an acquired neurosis results that becomes transmissible.

Dr. Alexander Haig attributes a great deal of importance to the maintenance of the alkalinity of the blood as the means of preventing the accumulation of uric acid in the body. Although high nutrition is one of the causes of diminished alkalinity of the blood, he does not believe that much is to be gained by great reduction of the amount of food ingested, as is recommended by some authorities.

Haig's rule for determining the proper amount of food for an adult is, that the body-weight in pounds is to be multiplied by 9, in order to get the number of grains of albumen that should be consumed daily. People who underfeed usually have a subnormal temperature, defective circulation, and deficient blood color, and are very susceptible to bacterial infections. He further emphasizes the necessity, if uric-acid retention is to be avoided, of warm clothing, avoidance of needless exposure to cold, of an equal division between mental and physical labor, and of abstention from fruit from October to April.

Haig sums up his views by saying that the greatest freedom from uric acid is secured by introducing none, and by eliminating each day, regularly and punctually, all that is formed in the body; and that this regularity of excretion may be obtained by clothing warmly, avoiding exposure to cold in every form, eating freely of potatoes, especially in cold weather, avoiding fruits that are out of season, and, indeed, by never taking fruits to any large extent except in very warm weather. It is also advisable to secure the proper distribution of time between bodily and mental exertion, and also to dispense with dependence upon tonics, stimulants, and bracing climates. The result would be, a better balance between body and mind, and a more healthy, natural, and useful existence than has generally been experienced either by ourselves or by our ancestors in the preceding century.

In order to determine whether uric acid and other acid waste products are forming in the body, it is necessary to make frequent examination of the urine. If the urine discloses a high degree of acidity (about 40) or shows that the degree of acidity is much below 20, it means that a proper diet must be partaken of and remedies taken, to overcome the acidemia; and for this there is nothing better than sodoxylin. Also, if there is faulty elimination from the bowels, salithia is a most excellent adjuvant. Follow Haig's advice and try these two remedies, and see how much you will benefit your uric-acid and acidemic patient.

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In the time of Shakespeare, the term disease was used both by himself and by Spencer as indicating ill at ease, and not, sick. The much quoted phrase from Macbeth anent ministering to a mind diseased, as is obvious from the context, simply means, removing the normal reaction to disturbing mental influences by means of medicine. "Throw physic to the dogs; I'll none of it!" exclaimed Macbeth when he found his doctor could not administer to a mind diseased. The stuffed bosom could not be cleansed with rhubarb, senna, or other purgative drugs.

The belief of primitive races in the occult, or mysterious, was behind this disdain of Macbeth. Had his physicians claimed to possess the mysterious powers of the Indian medicine-man, of Valentine Greatrakes, or Mrs. Eddy, Macbeth would have admired him. Usually the world, as has been remarked by more than one daily newspaper, "is quite as irrational in its expectations from the healing-art as was Macbeth, and because the physician has not been able to do all that is demanded of him he really gets no credit for what he does."

There are innumerable jests about doctors generally, to the effect that medicines kill, and it even sometimes is said that, if there were no physicians, people would less often die when sick. Literature is full of allusions to the general uselessness of doctors. Ben Johnson's bedridden Volpone was resolute against drugs and doctors:

> HE will not hear of drugs,
> He hath no faith in physic; he does think
> Most of your doctors are the greater danger
> And worse disease to escape.

Innumerable instances might be given of man's want of faith in the faculty. But, for all this, it is a great and noble profession, full of splendid achievements and crowned with discoveries that have ameliorated the condition and increased the wellbeing of mankind. The strongest testimony to the worth of the medical profession is found in the words of Volpone, a dissolute malingerer, who feigned to be bedridden and mortally ill, so as to secure presents from legacy-hunters who expected to profit by his will. His utter baseness was well depicted by Ben Johnson: "The contempt which he, like all feigners of disease, entertained for the medical professions is the highest compliment which could be paid it."

I often wish I could live fifty years longer, that I might see how wonderfully medicine will have changed then. Things we believe to be truths today will be looked upon as fallacies then. And how many medical fads and fallacies have come and gone in my time! But, then, we are progressing.

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One thing that accounts for the opposition to progress is, the craving for therapeutic certainty. There can be no absolute certainty in therapeutics. What we desire and are aiming at is, to get as near to certainty as possible. We can be certain of nothing, save our own liability to error. Arago dared to assert that "nothing is absolutely certain outside the realm of pure mathematics." Men cry out, "Where will you stop?" The answer is: "Nowhere; we cannot stop; we are not made for it."

But, if ideas and methods must always be held open to revision and change, we are certain of nothing. Is that true? What are we certain of when the plant is changing; when the boy or girl is passing from childhood into manhood and womanhood? Not for two minutes do they remain exactly the same. You are certain that they are alive and that they promise a future better than the present; that's all.

So, when old beliefs, old uncertain remedies, old methods have given way, ever making room for new ones, and then the new in their turn grow old and obsolete, what are we certain of? Certain that medical science is alive—that through all the changes there is progress; that, if it had been dead, these advances would not be made—decay is not development; certain that Sydenham and Burggraeve, those therapeutic heretics who burst the ancient bonds of the doctrines of the "fathers of medicine," still worshiped until their death the god of medicine. These men believed in the kernel, in the ultimate aim of medical science, and they, perhaps, believed in the primitive therapy, as serving the purposes of its time. They believed in it as the

florist who develops the flower believes in the bud from which he got it—believed in it as a stage through which growth was to pass—but, he did not believe in stopping at that stage. And now, as he believed in it, we believe in him; so, we must not be tied by him or anyone else to prevent us from acquiring truth for ourselves.

"But," it may be asked, "if we adopt certain therapeutic measures or remedies that are new to us, how do we know that we shall not have to change them again?" We do not know; medicine is not, nor ever can be, an exact science. Certainty of that kind is impossible, unless you are prepared not to think any more. It is the desire for that kind of certainty that gives us the "mossback" and the "dogmatist," the two most despicable obstructionists in the medical profession.

I have just finished reading all of Dr. Oliver Wendell Holmes's works for the third time. Today I ran across the following paragraph in "Our Hundred Days in Europe":

"How strange it is to look down on one's venerated teachers, after climbing with the world's progress half a century above the level where we left them! The stethoscope was almost a novelty in those days. The microscope was never mentioned by any clinical instructor I listened to while a medical student. *Nous avons changé tout cela* is true of every generation in medicine—changed oftentimes by improvement, sometimes by fashion or by the pendulum swing from one extreme to another."

We should see as great changes fifty years hence as Doctor Holmes saw in his lifetime. Today we practice according to our lights; tomorrow we may do differently. Yesterday I used carbolic acid and lysol; today I use chinosol, and like it better; tomorrow, I do not know what I may use or what I may do.

"But, this constant change," someone says, "is very disturbing and perplexing." No doubt, but that is inevitable in progress. If a flower becomes rootbound, the gardner must not grumble about the trouble of repotting it. Likewise, if our knowledge of therapy grow too large for old beliefs, we must follow the example of the wine-merchant, who put the new wine into new bottles.

Let us never seek to squeeze an inquiring spirit into the vise of ultraconservatism or to check the broad and soaring mind in the realm of truth. Remembering the wondrous character of truth's journey down the ages, let us restrain the brand of heresy from honest men; and, if any of you who read this article, by virtue of honest, hard, and conscientious thinking, coupled with a wide clinical experience, are looked upon with suspicion, because you use some well-tried remedy, do not enjoy the sanction of certain socalled authorities, and are spotted as "scabs" or "heretics" by heresy-hunters, let me remind you that you are in illustrious company. You rank with the Harveys, the Sydenhams, the Boerhaaves, the Jenners, the Priessnitzes, and the Burggraeves—men who could be ridiculed, but who could not be swerved. Yes, heresy is quite respectable.

A FEW MORE "PICK-UPS"—NOT BY DOCTOR BUTLER

An interview with Lydston appeared in a daily. To this, Lydston has taken exception, for the trifling reason that he was not present at the operation described, was not interviewed, and did not hold the views ascribed to him. What does he expect of the "newspapers," anyhow?

If public health is purchasable—and it surely is—Illinois is buying mighty little of it; her expenditure being 1-2 cent for each inhabitant.—*Illinois Medical Journal.*

J. J. Lows tells of a primipara recovering from severe puerperal eclampsia under hypos of lobeline sulphate.—Ellingwood's.

Buchu is the remedy for constant desire to urinate, with chronic irritability of the bladder.—Ellingwood.

Nuclein has given very good results in the treatment of boils, styes, and acne, as well as in coryza, otitis, and affections of the gums and teeth.—Ellingwood.

Codman said there was a Harvard medical ring and that much needless surgery was done there at fancy prices—and thereby got himself much disliked.

The Ohio State Medical Journal urges a suspension of the habit of knocking. Good; let the Ohio State Board set the example by ceasing to knock the independent medical colleges.

Triturate phenol, menthol, and camphor to liquid, add chloroform and oil of clove, equal parts, and you have a fine remedy for toothache.—*Medical Summary.*

Among the Books

"PRACTICAL MEDICINE SERIES"

The Practical Medicine Series. Ten volumes on the Year's Progress in Medicine and Surgery. Edited by Charles L. Mix, A. M., M. D. Volumes I and II. Series 1915. General Medicine and General Surgery. Chicago: The Year Book Publishers.

It is several years now since Mr. Head undertook the task of furnishing us with a current report of each year's progress, in the form of data gathered and abstracted from the field of medical literature, under the editorial guidance of Doctor Mix, and of publisher and editor alike it may be said, as was said of another veteran, that their eye is not dimmed nor their natural force abated. These men keep pace with the procession—which is no slight accomplishment, considering the speed with which the procession moves in these days.

It is really a very useful office that these books fulfill, crystallizing, as they do, into permanent form the salient items of observation and demonstration, as they drift by on the stream of current medical literature. It not only affords the practitioner a comprehensive practical summary of available therapeutic resource, but it embodies, in fact, medical history in the making.

Every physician should be a regular subscriber for this series. We may be pardoned if we remark, in passing, upon the very representative list of titles which now decorate the name of Dr. John B. Murphy, who edits the volume on General Surgery. In his person, American surgery has received world-wide recognition and honor.

KRAUSE-HEYMANN: "SURGICAL OPERATIONS"

Textbook of Surgical Operations. By Prof. Fedor Krause and Emil Heymann, M. D. Translated from the German and edited by Albert Ehrenfried, M. D. New York: The Rebman Company. Price $6.00.

The book, as its name implies, is primarily a textbook of operative surgery, telling how to operate; and this purpose it fulfills with all the exact detail for which the German mind is noted. It approaches the subject in a way that is different from any other book with which we are acquainted. Actual cases are presented and discussed, and are then carefully followed from beginning to end, through the operative treatment to the end-results. It is distinctly a personal work, dominated by the genius and skill of Fedor Krause, and enriched by a plentiful supply of clinical material directly under the author's hand in the Augusta Hospital, Berlin.

The translator has modified and rearranged where it seemed advisable, entirely rewriting sections and paragraphs where German practice differs from ours. The text is illuminated and interpreted by a wealth of beautiful illustrations that surpass any textbook we know of. The treatment is broad, discussing various methods, comparing their advantages, and giving intelligent reasons why one should be preferred over another. The book is the first volume of a series of six of the Krause-Heymann system of operative surgery, to be issued, in the English language, by the Rebman Company.

STOPFORD-TAYLOR AND MACKENNA: "SALVARSAN TREATMENT"

The Salvarsan Treatment of Syphilis in Private Practice. By George Stopford-Taylor, M. D., M. R. C. S.; and Robert William Mackenna, M. D., B. Ch. New York: The Rebman Company. 1914. Price $1.50.

There are two distinct parts to this little book. The first part is devoted to a more or less detailed description of the technic of the preparation and administration of salvarsan, a discussion of its rationale, of its action, and an interpretation of its various findings. The second part consists of the reports of several cases in which the authors have used the salvarsan treatment, either alone or in conjunction with mercury, in their private practice. Both record the conclusions arrived at after more than three years' use of this arsenical compound in the treatment of syphilis, and based upon experience in cases where it was possible to follow out the after-histories of the patients.

"We believe," say the authors in the preface, "that anyone who reads these pages will be convinced, as we are, of the immense benefit conferred upon the human race by Ehrlich's great discovery and of its unique efficacy in controlling one of the most devastating plagues that ever ravaged mankind." In all of which we heartily agree; and we go a step further and say that the reader of this book will derive from it an immense amount of practical information concerning the proper utilization of Ehrlich's discovery.

REED: "MARRIAGE AND GENETICS"

Marriage and Genetics: Laws of Human Breeding and Applied Eugenics. By Charles A. L. Reed, M. D. Cincinnati: The Galton Press. 1914.

This book is from the pen of a surgeon, one who is largely engaged in dealing with conditions that affect the power of the human race to perpetuate itself. The author tells us that he first intended it as a message from the operating-room, a series of danger-signals from the hospital-ward, from the viewpoint of the man who in his professional work was coming in daily contact with the end-results of biologic errors. However, his work, as it proceeded and broadened, led him irresistibly into a consideration of the natural laws of heredity and of human breeding, which must, necessarily, form the foundation of his thesis. So, in its ultimate outcome, a book was evolved that treated of the principle of eugenics as applied to marriage and the married state. To these, the author has added a brief description and discussion of the two diseases incident to sexual vice that today are poisoning the race. These topics are of vital importance to every prospective husband and wife, as well as their unborn children. To be sure, we may not expect that many laymen will read this book or that they will understand it if they do; but it furnishes the data upon which the doctor may constitute himself the adviser and admonisher of his married and marriageable clients.

DELAFIELD AND PRUDDEN: "PATHOLOGY"

A Textbook of Pathology. By Francis Delafield and T. Mitchell Prudden. Tenth edition, revised with the cooperation of Francis Carter Wood, M. D. New York: William Wood & Co. 1914. Price $5.00.

When the reviewer, who now, alas, is in middle age, was still a youngster, Delafield and Prudden already was an established classic, a tried and trusted textbook in the schools and a universal book of reference with the practitioner. The intervening years, naturally, have seen many changes in the content of the work, as edition followed edition, but its standing and reputation have not changed. With praiseworthy diligence and wideawakeness, the authors have kept pace with the march of knowledge, and each successive edition has embodied the progress of the period. The tenth edition, now before us, is well abreast of the times. The senior author, of course, no longer shares in the preparation of the work, so that Doctor Prudden alone is responsible for alterations and additions.

The text has been sharply revised and augmented. Thus, not only have a few of the older illustrations been discarded, but more than 40 new ones have been added. All the references and footnotes have been revised and considerably added to. The chapters on the blood and the blood-forming organs and those on tumors have been contributed by Dr. Francis Carter Wood. More than in any previous editions, pathology is considered in its relation to biology, in accordance with the trend of the times, and the dynamic aspects of pathology are emphasized. Thus, the work, while old, by no means is oldfashioned. On the contrary, it is a comprehensive, modern exposition of a swiftly moving subject.

HEGNER: "THE GERM-CELL CYCLE IN ANIMALS"

The Germ-Cell Cycle in Animals. By Robert W. Hegner, Ph. D., assistant professor of zoology in the University of Michigan. New York: The Macmillan Company. 1914. Price $1.75.

This book represents the substance of a course of lectures delivered during the past year, before a class in cellular biology, at the University of Michigan. The author recognizes the importance of the study of heredity from the germ-cells of animals in attacking the problems of genetics—a problem which is very much in the limelight at the present time, but sadly in need of a little intelligent handling. Within the scope of his writing, Doctor Hegner has included all those phenomena concerned with the origin and history of the germ-cells, from one generation to another; he has, however, with few exceptions, limited himself to a consideration of the germ-cells in animals, because the cycle there is

more definite and is better known than for plants.

The work is not, of course, one that will appeal to the practicing physician, as a class, having no direct bearing upon the treatment of disease or even upon the practical phases of prophylaxis. It is a purely scientific contribution to the problem of genetics. But it is among medical men, no doubt, that the largest number is to be found of those who are interested in the fundaments of this subject, and to them we cordially recommend a thoughtful reading of Doctor Hegner's masterly book.

ATKINSON: "BAKING POWDER"

Baking Powder. A Healthful, Convenient Leavening Agent. A Domestic Science Textbook. By Thomas G. Atkinson, B. Sc., M. D., L. R. C. P. (Lond.), Professor of Physiology, Jenner Medical College, Chicago. Formerly Professor of Physiology in Chicago College of Medicine and Surgery, and American Medical College of St. Louis. Chicago: The Commonwealth Press. 1915. Price 50 cents.

Somebody has very aptly said that the wife is the secretary of state of the home. If this is so, it is equally true that the doctor is the health officer of the home, and, as such, he is interested in the healthfulness of its food supply, over which he is exercising every year more and more supervision. Among all the factors that enter into the production of appetizing and nutritious food, there is probably none more influential than baking powder; and, by the same token there is probably no article around which there has been waged a more acrimonious controversy, both scientific and commercial. In view of these facts, the doctor will welcome an authoritative, unbiased book on the subject, setting forth in simple language and impartial spirit the plain unvarnished facts relating to the manufacture, chemistry and relative healthfulness of the various kinds of baking powder.

Doctor Atkinson's book gives us precisely this concise, straightforward treatment. It is written from the broad standpoint of the physiological chemist and the domestic economist. Its style is so simple that even the housewife, who is not supposed to have studied chemistry, can grasp the significance of the chemical, no less than of the economic, side of the subject. This book should go far toward doing away with the misconceptions that have been fostered by the misleading advertisements of conflicting trade interests, and will put into the hands of a long-suffering public the means to make its own intelligent selection of the best type of baking powder, whether for home or institution use. The author very properly points out that the crux of healthfulness in a baking powder lies in the residue or residues resulting from the chemical reactions which occur in the baking, and bases his conclusions in this respect upon a comparison of the character of the residues in the different baking powders, and the respective amounts of such residues, having regard to their medicinal doses.

The book should make a splendid textbook for teachers and students of domestic science schools. The author's experience as a teacher has evidently made it easy for him to get the point of view of the pupil, and obviates all the difficulties which have hitherto beset the task of teaching this rather confused and confusing subject.

LATHAM AND TORRENS: "MEDICAL DIAGNOSIS"

Medical Diagnosis. By Arthur Latham, M. A., M. D., and James Torrens, M. B., B. S. With 74 illustrations, 19 in colors. New York: The Macmillan Company. 1915.

For many years the large content of diagnosis and its high specialization has made it necessary to separate this phase, in the literature as well as in teaching, from the general principles and practice of medicine, of which it was formerly an integral part. And of late years still another necessity has arisen in the matter, namely, that of condensing and epitomizing what threatens to become an overwhelming mass of diagnostic data, in order that it may be available for practical use by the physician at the bedside or in the office. There certainly is a distinct place in medical literature for a book in which all the clinical information and the ordinary laboratory details necessary for the purpose of making a scientific diagnosis in a medical case are arranged in a concise and accessible form.

This is the *raison-d'-etre* of the book under review. The authors frankly admit presenting nothing original in their work, except the originality of adaptability. They freely confess availing themselves of existing textbooks and current medical literature. Their genius is to be seen and felt, not in the content, but in the method adopted; not in what they have included, half so much as in what they have left out, and, above all, in

the way in which they have presented the subject. This book is not a treatise for the book-shelf, but a working-manual for the desk. It is written with the customary English lucidity and straightforwardness.

LANDIS AND WELLS: "OBSTETRICS"

A Compend of Obstetrics. By Henry G. Landis, A. M., M. D., and William H. Wells, M. D. Ninth edition, illustrated. Philadelphia: P. Blakiston's Son & Co. 1915. Price $1.00.

Although this little book forms one of the publishers' well-known series of quiz-compends, and therefore is not to be judged by the requirements of a full-grown textbook, yet, we cannot help remarking that, for a quiz-compend, it is wonderfully complete and exhaustive. In truth, this compend almost measures up to the stature of a textbook, without pretending to be one; in very fact, in many respects we even should prefer it to the ordinary type of textbook.

As the authors correctly point out, the question-and-answer system brings out the important facts of obstetrics more clearly than can be done by the method of continuous narrative. And the fact that the limits of such a book necessarily forbid the recording and discussing of the various disputed teachings of a hundred and one authorities and that this forces an author to maintain a judicious eclecticism, is an advantage, rather than a defect, for which no apology is needed.

In addition, we cannot refrain from also commenting with a great deal of delight upon the excellence of the illustrations, which are altogether above the average of books of this class; some of them being in colors, but all of them beautifully done by the artist and also by the publishers.

SCHLESINGER: "LOCAL ANESTHESIA"

Local Anesthesia. By Arthur Schlesinger, M. D. Translated by F. S. Arnold, B. A., M. D. Illustrated. New York: The Rebman Company. 1915. Price $1.50.

This is the second translation into English that has been made, during the present year, of works on local anesthesia by German authors, the first one being that by Heinrich Braun, which was reviewed in these pages a few months ago. The present work is by an equally distinguished authority on the subject. No one has done more original research and study in local anesthesia than Doctor Schlesinger, of Berlin, and no one has made greater effort for its clinical promotion than has he.

This book is preeminently a practical one; for it aims to give the means of perfecting their technic to anyone lacking opportunity to gain acquaintance with the various methods by observing them in hospital-practice; while for the benefit of those who may be specialists in anesthesia it treats, in accordance with the present state of knowledge, of the best methods of dealing with the more difficult problems of the subject. The author sets forth the technic which in his own wide experience has been found the simplest and most practical.

POLAK: "GYNECOLOGY"

Students' Manual of Gynecology. By John Osborn Polak, M. Sc., M. D., Professor of Obstetrics and Gynecology, Long Island College Hospital. Illustrated with 100 engravings and 9 colored plates. Philadelphia and New York: Lea & Febiger. 1915.

Of the making of books on gynecology there is no end, and much reading is a weariness to the flesh. We cannot conceive of any man really persuading himself that there is a call or even any excuse whatever for another book on this particular subject. However, this presumably is outside the reviewer's province. His not to reason why. His but to give a brief characterization of any work up for consideration, and that sheerly upon its own merits, as though it were the only one of its kind in existence.

Upon such a basis, it must be confessed that Doctor Polak's volume is well written and adequate to its purpose as set forth in the preface, namely, to aid the student and general practitioner "who may desire to follow intelligently the usual undergraduate and graduate courses in gynecology." Avoiding all theoretical discussions, the text sets forth, briefly and clearly, the indications for surgical intervention and gives plain descriptions of most of the usual gynecological operations. Nor is treatment limited to surgery; medical gynecology has a fair representation. The illustrations are excellent, both from the artistic and the didactic standpoint.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Queries

QUERY 6019.—"Pernicious Anemia." H. D. H., Illinois, wishes to be told of the latest and best treatment for pernicious anemia, in answer to which we regretfully must say that no satisfactory treatment for pernicious anemia thus far is known; although liquor arsenii comp. (Barclay) may prove of temporary benefit in some instances.

In this connection, our answer to another correspondent, writing from Michigan, who asks, "What may be expected of nuclein in pernicious anemia?" may prove of interest. This answer follows:

In true pernicious anemia, you hardly can expect much benefit from the use of nuclein, although in progressive secondary anemia its administration would distinctly be indicated, and results might turn out very satisfactorily. As a matter of fact, nearly all anemias are more or less progressive, and the earlier the underlying pathologic condition (the cause of causes) is discovered, the better chance we have for putting a stop to the blood deterioration.

In true progressive pernicious anemia, there is a persistent trend from bad to worse. The disease almost invariably ends fatally, treatment being of little or no avail. Of course, we can maintain elimination, strive to improve nutrition, and place the patient in the most favorable condition to resist the malady.

It is well to remember that there are three distinct categories into which cases of pernicious anemia may be grouped, namely: (1) Those in which no discoverable cause for the hemolysis is ascertained, either before or after death; (2) those in which the real cause is discovered at the necropsy only; (3) those that plainly are attributable to some primary cause or condition. In many obscure cases of idiopathic anemia, the writer believes that the hemolysis originates in the gastrointestinal capillaries and results from the generation of toxins formed in, and absorbed from, that tract. Some cases that apparently were without cause have been found, at necropsy, to be owing to some undiscovered malignant disease, to the presence of parasites or to other unsuspected conditions.

We suggest, doctor, that you make a thorough examination of your patient and report findings in detail, at the same time sending a specimen of blood to a pathological laboratory, as a basis for further consideration.

QUERY 6020.—"Edema Angioneurotica." J. D. W., Texas, has under treatment a man 50 years of age who complains of always feeling "as sore and stiff as an old horse," and has been that way for at least thirty years. When he was seventeen, and a cowboy on the plains, he noticed that whenever a cold drizzling rain fell his hands and face would swell, turn red and itch; and again a few years later, the same condition occurred whenever he was out in a cold wind. Then, still a few years later, just a cold spell early in the morning would bring on the same condition, although not so badly as would a cold, windy rain. At times, his hands have been puffed so badly and his cheeks so red, swollen, and hard that they felt (and looked) as if frozen. Of late years, during the winter, he does not dare undress in a cold room, because as soon as clothes are removed and cold air hits his naked flesh a rigor attacks him, and he starts screaming and can not wait to put on a night gown, but jumps into bed and covers up from head to heels, in order to exclude the air, and there he lies shaking and screaming for sometines as long as twenty minutes.

He always takes hepatic stimulants and takes extra good care of himself, is very temperate and religious, and says he never had gonorrhea or syphilis and never was frozen. There is neither sugar nor albumin in his urine. His skin is thin and anything touching him hurts it. The Doctor has failed to discover any nerve-center lesions. He weighs

225 pounds and is six feet high. Our diagnosis is requested.

The condition described is somewhat akin to urticaria edematosa or to edema angioneurotica. In the latter, however, the cutaneous phenomena are ushered in with some degree of malaise and gastrointestinal disturbance. It would be well to ascertain the surface temperature, which in some instances is elevated and in others reduced. Horvitz and Ashton report attacks following exposure to draught or sudden cooling of the surface, and Wende established, in some cases, an association of albuminuria and hemoglobinuria. Unquestionably you are dealing with a vasomotor neurosis, of autotoxemic origin.

Query 6021.—"Condurango; Boldo; Albolene." J. B., North Carolina, finds no mention in his materia medica of condurango, boldo, and albolene, and asks for information relative to their physical and medicinal properties.

The bark of condurango is derived from condurango blanco, a tree native in South America. It was introduced into medicine, in 1873, as a cure for gastric cancer, and for a time it enjoyed quite a favorable reputation. We now, however, know that this drug does not exert any direct action upon the malignant growth, although to a certain extent it is capable of diminishing the severity of the symptoms, in some cases, by exerting a favorable influence upon the gastric mucosa. Condurango may be regarded as tonic, stomachic, and slightly anodyne. The fluid extract is the form in which it ordinarily is prescribed, but unquestionably the best preparation to employ is condurangin.

This drug may be administered in gastric ulcer, gastritis, and the early stages of gastric cancer. It improves the appetite and vomiting is controlled by it. It is absolutely useless in extragastric carcinoma. The average dose of condurangin is 1 to 3 granules of 1-64 grain each, taken every two to four hours with a little hot water. A more pronounced effect may be secured by administering it hypodermically.

Boldo leaves, derived from peumus boldo (also a South American tree) contains an alkaloid, boldine, and a glucoside, boldoglucin. Boldine or, in a minor degree, a really active fluid preparation of boldo leaves, materially increases the elimination of urea and secretion of bile. Taken internally, it causes a bitter taste in the mouth and a slight sensation of warmth in the stomach. It materially increases the appetite and digestion, and exerts a specific action upon the liver.

The drug is used in the treatment of chronic hepatitis, jaundice, hypertrophy of the liver, hepatic colic, bilious vomiting, socalled bilious headache, and cholecystitis. As a matter of fact, the drug was little known in this country until it was discussed and recommended, in the form of boldine, in these pages.

Boldine hydrobromide—the most effective of its salts—is procurable in the form of granules and tablets containing 1-64 grain, and 1-6 grain, respectively. The average dose is 1-32 to 1-6 grain every three or four hours, as conditions may demand; always with a draught of water. The best results follow the administration of the larger dose before meals and at bedtime.

Albolene is merely a trade-name for purified liquid petrolatum. It is used extensively in nose- and throat-work, and lately has been given internally in somewhat large doses as a lubricant of the intestinal tract. "Russian mineral oil" is nothing but rectified liquid petrolatum.

You will find liquid petrolatum described in Hare's "Therapeutics" and other recent works on materia medica. Also consult The United States Dispensatory.

Query 6022.—"Varicose Veins." C. E., Indiana, writes: "One of my patients has varicose veins. Some time ago I read that the Eclectics use ergotin for curing this condition, but that was about all that was said about it."

A number of factors contribute to the development of varicosities, and it is necessary to familiarize oneself as fully as possible with the abdominal and pelvic conditions. Without exception, the urine should be examined and the heart-sounds carefully studied. In varicosities confined to one leg, and not very pronounced, the veins assume their normal appearance when the patient is in a recumbent position; and here much can be done by the proper application of elastic bandages. Frequently resection of the long saphenous vein at the saphenous opening is desirable or else the diseased vessels themselves may be resected.

A comparatively recent treatment consists in the application of specially woven bandages applied snugly from the toes to 6 inches above the varicosed area and then saturated with a gelatinous paste that carries antiseptics and astringents. The paste is melted and applied warm with a brush. As many layers of bandages and paste are applied as may be necessary to form a firm, elastic dressing.

This may be left in place from four to two weeks, then is cut away and a new dressing is applied. Some very remarkable results are being secured by this method, which, of course, is based upon the old Unna dressing.

Ichthyol, 2 drams; barium chloride, 30 grains; olive-oil, 2 drams; lanolin, 6 drams, triturated together, constitutes an excellent application, being applied three times daily and covered with a snug bandage. Ichthyol, 2 drams to 6 drams of flexible collodion may be painted over the affected area twice daily. The collodion is allowed to dry and then a bandage applied.

The injection of ergotin in solution is recommended highly by some writers. However, in our judgment, it is a rather dangerous procedure. Some very intractable ulcers have followed even carefully made injections. Wherever varicose ulcers exist, the improved Unna (varicocene) treatment proves peculiarly efficacious.

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QUERY 6023.—"Subnormal Temperature in Typhoid Fever." J. N. L., New Mexico, writes: "I have treated several patients for typhoid fever this winter, whose temperature was subnormal. I could control the condition and get the patients to feeling fine, but have had considerable trouble in bringing the temperature up to normal. One patient had a drop of 3 1-2 degrees inside of eight or twelve hours. He had no hemorrhage. This drop in the temperature came on each night, and twice went as low as 95.5° F. I have had two other cases (not typhoid fever) in which there occurred a drop to 95.25° and 96.5° F. Please tell me what to do under such circumstances."

Subnormal temperature cannot be regarded as an unusual feature; still, strangely enough, several correspondents have called our attention to the remarkable frequency of the phenomenon in their practice during the past winter.

As a rule, full doses of strychnine and cactoid and the administration of a hot saline enema will prove promptly remedial. In the case of recurrent subnormal temperature, without hemorrhage, we take it that you assured yourself that occult hemorrhage did not occur?

The administration of strychnine, gr. 1-64, and of cactoid, gr. 1-64, together with a few spoonfuls of concentrated nutrient probably will ward off this abnormal lowering of the temperature. Nuclein also might be used advantageously in such cases. It has been this writer's habit to resort to rectal alimentation under similar circumstances—peptonized beef, peptonized gruel, malted milk, defibrinated bovine blood, and similar preparations may be given every few hours. Sanguiferrin in full doses every three hours may be depended upon to produce results in the majority of cases. It is always necessary to search diligently for the causative condition and to correct that.

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QUERY 6024.—"Two Interesting Cases." S. S. M., Ohio, requests help in two cases which, so far at least, have failed to respond to treatment.

Case 1. "A woman thirty-four years old, married nine years, blond. She aborted eight years ago and has not been pregnant since, but is desirous of having a child. She has sexual desire, but an orgasm only once in two or three weeks. The clitoris is not adherent. The uterus is healthy-looking, there is no discharge and no vaginitis. I do not think that acid secretion has anything to do with her sterility. The vagina is dry. Could this woman be called impotent? Where can I procure literature shedding light upon conditions of this kind? What could cause a woman to get in this condition? No amount of teasing will bring on an orgasm.

"The uterus may possibly be retroflexed, I am not sure, as she is fleshy and has much intestinal gas. There is considerable tenderness about the gall-bladder, but no pain. She complains of 'chilly sensations in the back' over the kidney, these being marked, and, as she says, 'like lumps of ice.' She has experienced these off and on for three years. I think there also is catarrh of the colon, as she passes mucus; but the rectum is all right, so far as I can see. The urine has a specific gravity of 1015; color is light; amount in twenty-four hours is 36 ounces; it contains no albumin or phosphates. She remains constipated, no matter how many laxatives she takes or how prompt she is about going to stool."

Case 2. "A woman (graduate nurse), aged thirty, who got deeply into a love-affair, but her parents prevented marriage. Later, pain began to be felt over and above the right eye, well up on the temple and along the forehead. Then she became insane and was taken to an asylum, where she was permitted to walk until she became tired out; she sometimes walking for forty-eight hours without resting, as I am informed. At that time she weighed 195 pounds. Later, she tells me, her feet began suddenly to burn as if they were in fire, clear up to the knees; she was wheeled about in a chair for four months, as she could

not stand. While at the asylum, she lost 45 pounds, but now weighs 195 pounds, after having been home a year. She can walk a little in house-slippers. She tells me that, if she could not see, she would not know whether her feet were in water or not, or whether she had shoes on or not. She can not bend her ankles. The big toe of the left foot stands straight up, while she can not move the other four toes of that foot. Both feet and limbs are twice the normal size, but do not pit when pressed.

"I have applied the high-frequency current to the sole of the left foot and she felt it all right. She seems to be jolly and bright and is really intelligent. She voids 46 ounces of urine in twenty-four hours which has a specific gravity of 1030 and contains no albumin. I am at a loss to know what to do for this woman. I have thought of reducing the edema by applying the vibrator and then let time do its work. The last year she has done nothing for the trouble, and it has improved considerably."

Case 1. It is quite evident that this woman is not impotent, though she may be sterile. Unfortunately, a diagnosis cannot be ventured without a much clearer idea of pelvic and general conditions. If there is retroflexion it should be corrected; and vaginal secretion and urine (four ounces from the twenty-four-hour output, stating total quantity voided) should be sent to a pathologist for examination. The condition of the cervical canal should be ascertained.

Are you quite sure that the husband is not at fault? Very many women supposed to be sterile bear children by a second husband. It is quite probable catarrhal gastritis or chololithiasis (perhaps both) may be present. Suppose you ascertain definitely the condition of the pelvic organs. Dilate the cervix if necessary, and give papain, gr. 1; pepsin, gr. 1; strychnine sulphate, gr. 1-128; berberine hydrochloride, gr. 1-32 before eating; and chionanthoid, apocynoid, bilein, and pancreatin one hour after each meal. Hot alkaline antiseptic douches followed by the insertion of a glycerin tampon, every second night, should be ordered. Faradic current to spine and over pelvic viscera.

Case 2. Here, as you can readily understand, it is absolutely impossible for us to even venture a diagnosis or offer definite therapeutic suggestions. The pulse rate, heart sounds and blood pressure should be ascertained; also area of hepatic dulness.

The reflexes also should be tested. Are you quite sure that there is anasarca of the extremities? It is just possible that pelvic infection is at the bottom of all the trouble.

The administration of apocynoid, scillitin, and caffeine might prove effective if you are dealing with a dropsical condition. It would be well to send a specimen of the patient's urine and a blood smear to a pathologist, for examination.

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QUERY 6025.—"Vicarious Menstruation." J. F. K., Arkansas, is treating a girl, nineteen years of age, who has not menstruated for nearly seven months. She presents no other signs of pregnancy and seems to be in reasonably good health in all other respects. She has, however, frequent bleeding of the nose and complains of pains in the head, lower bowels, and legs, which sometimes are very severe. Her appetite is good.

Our correspondent says, "I have tried almost everything recommended for such troubles, but have not relieved her. Is there any remedy that will force menstruation in such cases?"

Vicarious menstruation, evidenced by frequent attacks of epistaxis, is not a particularly uncommon condition. In this case, it would be well, we think, to make a thorough examination of the pelvic organs, and especially to observe the condition of the cervical canal. You may have pin-hole os or atresia. Is there any possibility of a tuberculous taint?

Copious hot douches and the arsenates of iron, quinine and strychnine, with nuclein, in full doses after meals, and viburnoid, aletroid, and caulophylloid (of each, 1-6 grain) every three or four hours, might prove beneficial. Pregnancy must, of course, be definitely excluded.

At what age did menstruation first appear? Were the periods regular until seven months ago? Is there any history of trauma or sudden chilling of the extremities?

The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use

Vol. 22. No. 9 SEPTEMBER, 1915

The Problem of the Children

AS I was coming upon a whippoorwill's nest the other day, the mother bird fluttered off when I got to within a step of her two downy hatchings. She crouched on the ground a few feet away, with wings hanging loose, a picture of maternal appeal.

Returning to the house, I found a mother industriously putting her son's wardrobe in order, deftly plying her needle, and just as deftly eliciting from Jimmy every bit of information that might inform her as to his associates, habits, occupation, aspirations, and all that. Bird mother or woman—one like the other—the eternal feminine.

I should be speaking here of diseases and their treatment, of pathologic processes, infections, and things of that kind, and be suggesting appropriate therapeutic measures; but, I would much rather talk of the happy little wights, released from school, escaped from the prison of bricks, vagabondizing, dreary asphalt pavements left behind, through fields and woods, coming upon more real treasure than ever pirate buried; getting delightfully scratched, bitten, bogged, soiled, and torn; finding refuge from the summer heat in the cool waves; giving the palate new experiences with wild fruits and berries; seeing real wild creatures; while day by day their cheeks are growing rosy, their young bodies robust. I should like to tell of the slum-boy who has grown two inches taller during two months on the ranch, of his discovery of a "big hen that fights the others and says 'Ooh-hoo-hoo,'" and of his rapid development to such an extent that he is entered on the farm pay-roll.

What method of scientific treatment compares with this life in the wilds? For what diseases? Why, for the children themselves, and for whatever ails them. To develop them into healthy, happy, blooming girls and strong, athletic, symmetric youths, clean and wholesome in body and mind. They sleep like the rocks, eat until the elders look aghast, and know not the meaning of indigestion. Well—

The science of pediatrics has developed so vigorously that we have greatly prolonged the average life of man; and this is exclusively because of the lessening mortality resulting from the diseases of childhood. For those past the fortieth year, it must be said, the mortality has notably increased. Cancer, diabetes, and material lesions of brain, heart, kidney, liver or lung furnish nosologic designations for particular varieties of wearing out. Smallpox, though, is all but extinct, thanks to

vaccination. Scarlet-fever, measles, whooping-cough, and other infections are yearly better guarded against by isolating the sick and destroying infective material. In proportion as the medical inspection of schools and pupils becomes more general, we may witness a still more notable decrease in the maladies of child-life.

A recent discussion of the treatment of diphtheria furnishes an apt illustration of modern therapy. The speakers divided on the question of dosage of antitoxins, namely, those favoring either maximum, minimum or medium doses. However, not a suggestion about the use of a drug was made, not even a warning as to the sanitation of the premises. But, are these factors absolutely nothing, not even worth mentioning? Or is it that they are so generally known and acted upon as to need no mention? Has sanitary inspection become obsolete? What becomes of our old enemy, cholera infantum? Sterilized milk, municipal supervision of this food from cow to child, is perhaps the greatest single factor in reducing infant mortality.

Unfortunately, all who are rescued from variola and cholera infantum do not live to grow up, but are saved only to swell the number of possible victims of pneumonia and measles. The latter infection increases in prevalence and intensity. One wonders whether that miserable Russian scourge, influenza, or grip, has not permanently left its imprint upon the people in an increased vulnerability of the bronchopulmonary tissues.

The long sway of the Tonics is broken. That dynasty has been dethroned and the scepter is wielded by the Germicides and the Eliminants. Instead of pouring into our patients big doses of iron, quinine, strychnine, codliver-oil, and the innumerable roborant specialties that filled the advertising pages a few years since, we recognize the danger of toxins circulating in the blood, and we seek to set wide open the gates of elimination and flood these noxæ out of the system. Rid the body of their depressing influence and the vitality revives. This fills in the time while we look for specific clubs with which to whack each form of invading parasite.

Nevertheless, drug-therapeusis is not dead, but shows signs of coming out of the trance. No other drug has occasioned such a furore as emetine. Experiment and deduction are rapidly extending its territory and establishing its bounds. When the therapeutic nihilist raises his voice, just whisper "Emetine," and he subsides into his place with a full-fledged classical dull thud. Thereat the alkaloidist snickers in friendly glee and waits for the next step to be taken—for the question to be popped, "Are there not other plants whose active principles when isolated may work such miracles?" To which the reply waits on his lips, "Open our books and you'll see!"

But how the doctor hates to be taught! For years, we have told him that the nitrites were too evanescent to maintain relaxation of vascular tension, and have pointed him to aconitine and veratrine. At last he is pointed in the right direction; recent papers acknowledge the unfitness of the nitrites and record successes with aconite and veratrum viride. That is, the doctor *supposed* he got the green hellebore, but since the indulgent Pharmacopeia permits the retailer to substitute the cheaper white hellebore, which Europe produces but does not use, there isn't much veratrum viride in sight. After due bungling with these uncertain, variable, and unstable preparations for the usual period, the profession will discover the alkaloids, and then we shall have other emetine-sensations.

The world do move. It has finally permeated the professional consciousness that atropine and hyoscine are not identical. In time, the variations between strychnine and brucine, morphine and codeine, hydrastine and berberine, gelsemine and gelseminine, quinine and cinchonidine may be learned and advantage taken of these differences for more accurate therapeutic applications.

Be patient. The glacier may move but an inch each day, but it moves.

It is a fine quality in a man to be in love with his job. Even though you have little sympathy with Savonarola's fierceness or Wesley's hardness, they were burning up all the time with their allegiance to their ideals of salvation. They served their Lord as lovers.

—Price Collier.

FEBRILE ATTACKS DURING CHILDHOOD

The delicate, impressible nervous system of the child renders it liable to febrile attacks from causes that would not noticeably affect an adult. Not only so, but the same irritation will induce a much higher degree of fever in the younger subject. Hence, we have, in dealing with children, many cases of fever of anomalous type. They are neither typhoidal, exanthematic, malarial, nor dependent upon local inflammations. They may present high, even hyperpyretic, temperatures, delirium, convulsions, marked

gastric distress, and other phenomena that in an adult would be considered grave, yet, in a few hours subside under appropriate treatment.

Do not blame everything upon the everlasting microbe. Quite nine-tenths of these attacks are toxemic, and at least ninety percent of the toxemias are of intestinal origin. Every member of the Grand Order of Mothers knows this, by precept and by intuition, and every real doctor learns this fact, sooner or later.

The child follows closely the lines of development of the race. It begins by experimenting—swallows everything it can pass down its throat. In good time, it learns to eliminate from its list of possible edibles such articles as marbles, spools, yarn balls, and other stuff. Not until the child approaches adult life is it convinced that green fruit is to be eschewed. Meanwhile the stomach, like the muscles, is being exercised, trained, disciplined. The organ learns to digest many things with which it is unable to cope at the first trial. Its powers develop, its capabilities expand, with experience. In time, it becomes a docile, obedient servant or else a spoiled, pampered, tyrannical master. Which of these, mostly depends upon the judgment of its owner or of his medical adviser.

The cause of febricula seldom is detected by mere questioning. The readiest means of eliciting the truth here is, to administer an emetic, followed by a cathartic. Blessed is ipecac, thrice blessed are the broken doses of calomel, followed by a saline laxative, for this triad usually comprises diagnosis, prognosis, and treatment, all in one.

In these decadent, overnice times, the emetic has fallen somewhat into desuetude, but now, that emetine has amazed the medical world with the revelation of some of its powers, we may look for a rediscovery of its value in this direction. Many a threatening attack has been dissipated by this homely old method. The offending matters are ejected, the bowels are cleared of debris, the liver is relieved of its impossible task, the streams of elimination are washed clean, the blood becomes depurated. As a consequence, the normal secretion of the digestive fluids is reestablished and the pathologic symptoms subside with a swiftness that has no parallel in the fevers of adults.

Spontaneous vomiting is no proof that the stomach does not yet contain peccant materials; and very often a little ipecac or emetoid will stop the vomiting by bringing up what excites it. But one of the curious effects of calomel, in doses of 1-10 grain every half hour, is, to allay this vomiting and the accompanying symptoms while yet the stomach contains the rotten fish or other unwholesome food that caused the attack. Here the mercury possibly acts as an antiseptic, or it stops ptomaine absorption, or it restores secretion and excretion. Follow the tenth dose by a laxative saline, and the decayed food is discharged. This applies to grown persons as well as to children.

Should the fever persist when the stomach and bowels have been emptied or when the temperature is so high that an antipyretic is required at once, we have in aconitine a remedy so admirable that no improvement upon it seems possible. Those who know aconitine only from the textbooks look upon it with awe, as the most poisonous of drugs, simply because the dose is so very small. But to those who do not judge of danger by the relative dimensions of the dose, this one is especially suitable for administration to children because of its safety.

This latter fact depends upon its certainty of action, the uniformity of the physiologic response to each dose, the regularity with which its dependent phenomena develop, and that the invariable evidences pointing to full development of therapeutic effect permit us to administer aconitine with confidence to the youngest infant.

Can this same thing be said of acetanilid? Or even of pilocarpine? Surely not. Acetanilid imperils life, by the sudden and tremendous development of its powers, inducing collapse. Pilocarpine is liable to show no action until suddenly profuse sweating sets in, far beyond what is needed. Half the dose does not induce half as free sweating or even any sweating at all.

On the other hand, it is so very easy to say to the nurse: "Give a teaspoonful out of this glass every half hour, until the fever breaks." Any person who fails to comprehend that is not a fit person to be entrusted with the care of a sick child.

Calomel, saline laxative, aconitine, emetoid—is any other remedy needed in treating the fevers of childhood?

Sometimes the attack so pulls down the vital forces that during convalescence a tonic is really needed. For this purpose, Burggraeve and his disciples valued highly the ferrocyanide of quinine. This remedy is not well enough known on this side of the Atlantic. It combines the qualities of the chalybeate, the bitter digestive tonic, and the antiperiodic. The dose is minute and

easily administered. We need not confine our application of it to malarial regions, and, as a general thing, for convalescence it has proved quite satisfactory.

Many special conditions may call for other remedies. The clinician who studies the aberrations from physiologic equilibrium, and the means of restoring harmonious functionation, will have at hand a multitude of remedies from which to select with nice precision that are exactly suited to the conditions.

In common life it is the family physician who knows the physical traits of his wards and is in a position to employ the means of prevention at his disposal. The time should come very soon when the specialistic fad, which has invaded and controls the public even more than our profession, will make way for the renewed recognition of the family physician as the truest friend and most meritorious advisor.—A. Jacoby.

DISTINCT PATHOGNOMONY OF CHILDREN'S DISEASES

There are special factors at work in children which conspire to engender a group of diseases in them to which the adult is a stranger, and also to modify powerfully those diseases which they share in common with the adult. First among these factors is inheritance.

To be sure, heredity plays a part—and a considerable part—in diseases of all ages. But, in the child, and particularly in the infant, it is an especially powerful and direct factor. The newborn child may, indeed, be regarded as an enlarged and differentiated edition of the germ-plasm itself, in which all of the qualities and defects of the plasm exist in their simon-pure state, and which has thus far received only the passive impressions of maternal environment. None of those individual habits and adjustments by which it holds onto life and insures its own separate survival has as yet been developed; the child holds its high place in nature at the expense of individual strength. Acquired qualities and faculties are still lacking or are so feeble and elementary as to exercise no modifying influence upon those inherited. Hence, whatever tendencies may be present in its heredity and whatever influences may have been passively received from maternal sources, are as yet uncorrected and unmodified by any direct reaction between the organism and its environment.

Another powerful element in the equation is the developmental factor. Perhaps it is this which, more than any other, differentiates the diseases of children from those of adults. The fact that the child is *unfinished*, and still growing, has a profound influence in the shaping of its pathology, as it has in the shaping of its physiology.

As an instance of what I mean, consider the pathologic difference which distinguishes the course of an acute bronchitis in a child from the same disease in an adult. In an adult, the cartilaginous tissue is hard and nonvascular and, therefore, virtually unsusceptible to inflammation. Chondritis is exceedingly rare in adult life. In young children, on the contrary, cartilage is soft and vascular and very liable to congestion, and in them chondritis is relatively common.

This same fact underlies most of the difference that characterizes an attack of acute bronchitis in children and in adults. In the latter, it is only the mucous membrane that is attacked; the bronchi themselves, that is, their cartilaginous structures, are immune. In children, on the other hand, the entire tube is involved, cartilage and all, so that the dangers of extension to the root of the lungs, of rupturing and dilating the bronchiolæ, and so on, are very greatly increased.

This is, of course, but a single instance, which might be duplicated in practically every disease to which the young child is a victim; not to speak of the many pathological conditions affecting children, because of this same developmental factor, to which adults are not susceptible at all.

Still another factor in the child's pathology is its utter lack of nerve inhibition during the first year of its life and its comparatively weak inhibition during the whole of its childhood. The child-organism is an "all-of-a-sudden Peggy." It reacts quickly and violently to stimuli. Hence, the relative commonness of acute and chronic affections is the reverse of what it is in adults. Chronic disease is relatively uncommon in children; acute conditions are the rule. And the reaction in these conditions is greatly exaggerated. Every physician knows how easily the temperature of the child goes up and down upon the slightest provocation; how even more easily the pulse runs riot; how vasomotor impressions, which in adults are checked at the peripheries and cause only a chill, in the child undulate to the centers and bring about convulsions.

These, and countless other phenomena that will be recalled by the observant physician, owing to lack of inhibition in the child, are but outward and visible indications of an inward and invisible instability that cannot fail profoundly to influence and modify disease in the child.

These few considerations are typical and illustrative. They might be multiplied many times. However, they are sufficient to demonstrate the essential and deep-lying differences that distinguish and separate the diseases of children from those of grownups and render them distinct. A certain great English pediatrist once said that, whereas we are in the habit of regarding the forms of disease met with in children as being atypical, as a matter of fact, it is in children that disease is to be seen in its typical forms; in the adult it is rendered atypical through the influence of subjectivity and individual variation. We believe this to be true. At all events, there is demand for a more distinctive and special study of disease in children, and it offers a fruitful field for any doctor who wishes to devote himself to a worthwhile specialty in medicine.

"The woman who thinks the atrocities of war are just too terrible for anything will soon go away for the summer and leave the cat with a jar of condensed milk and no can opener."—Don't know who said it—but it's a fizzle-dinger.

IS THERE A GOOD TINCTURE OF ACONITE?

Quite the most appalling and astounding exposé of the weakness of one of our commonly used galenic preparations that has come to our attention within recent months is presented in a paper by Dr. G. Canby Robinson, of St. Louis, entitled, "An Investigation of the Potency of Tincture of Aconite," and printed in the May number of *The Archives of Internal Medicine.* This paper, mind you, is not a crude expression of untrained and thoughtless empiricism, but is a careful, exhaustive study and analysis of tincture of aconite, based upon numerous assays, physiological tests upon animals, and clinical tests upon human beings.

Doctor Robinson points out that the effect of the active principle of the drug—that is, aconitine—upon the mammalian heart has been studied by Matthews, who demonstrated experimentally its power of slowing the heart, weakening the systole, and reducing the blood pressure. These effects, Doctor Robinson asserts, seem to result entirely from a central stimulation of the vagus, for they completely disappeared after the administration of atropine or cutting the vagi. Aconite is advocated by Matthews as a remedy in conditions in which it is desirable to stimulate the cardiac inhibitory center without affecting the heart-muscle. For this purpose, as we all know, aconitine is being widely employed, and with the happiest results.

Doctor Robinson says that his experience with the tincture of aconite, as a means of lowering the pulse rate, was obtained in an attempt to influence the tachycardia of exophthalmic goiter. The drug was administered by him in five cases of that disease. The preparation employed was obtained directly from a firm of manufacturers who had given special attention to the preparation of the tincture, and who cooperated in every way by furnishing chemical assays and details of the mode of preparation. The assays, made at the firm's laboratory shortly after they had prepared the tincture, showed that it contained the full amount of aconitine required by the United States Pharmacopeia.

This carefully controlled tincture at first was given to these goitrous patients in question in 10-drop doses three times a day. Strange to say, not only were no untoward symptoms produced, but no drug-symptoms of any kind whatever. Consequently, the dosage gradually was increased, until four of these patients were taking approximately 150 drops six times a day, while the fifth received approximately 105 drops six times a day. Hence, this latter person ingested *daily 30 times the average dose fixed by the last edition of the United States Pharmacopeia.*

Doctor Robinson comments: "It suffices here to say that no subjective symptoms were observed and *that no slowing of the pulse rate or lowering of the blood pressure occurred.*"

In order to determine the cause of the complete failure of this official tincture of aconite in these cases, Doctor Robinson undertook an elaborate investigation, beginning with an assay of the tincture, which was made by Dr. C. W. Ballard of the College of Pharmacy of the City of New York. Four assays were made, the result each time being approximately the same, and showing an average aconitine strength of about 85 per cent of that required by the Pharmacopeia. Also, a physiologic assay of the preparation was made upon guinea-pigs, according to the method described by Roth.

Without going into details, it is sufficient to say that, although this tincture at times caused death, "the guinea-pigs often survived as much of the tincture as could be conveniently introduced under the skin of the abdomen." As a control, crystalline aconitine, obtained from the same firm, was tested upon guinea-pigs in the same manner and was found to be fully effective, the results finally showing that "the guinea-pigs survived

a dose of tincture of aconite which, if the U. S. P. assay-method were to be relied upon, would have contained 45 times the minimal lethal dose of crystalline aconitine."

The astounding fact revealed by this test is, that tincture of aconite, even when it contains a large percentage of aconitine, practically is inert, while aconitine itself, when given separately, is active and efficient. The aconitine, whether given in aqueous or in alcoholic solution, produced the effects upon the heart so often referred to by investigators. The tincture of aconite, even when showing approximately the same percentage of aconitine as was obtainable in the extemporaneous solution of the latter, was found to be practically inert.

The moral drawn by Doctor Robinson in this interesting series of experiments is, that physicians using tincture of aconite should use only a preparation which has been tested physiologically. The chemical assay, even when demonstrating the presence of a sufficient quantity of aconitine, is no guaranty that the drug is effective therapeutically.

Readers of this journal will be quick to grasp the real significance of an investigation of this character. Here is another proof—an incontravertible proof—of the uncertainty of a galenic preparation in everyday use and relied upon by thousands of practitioners throughout the country.

Tincture of aconite is a remedy upon the proper use and efficiency of which lives often depend. Yet, it cannot be depended upon, as tests like these by Robinson certainly show. Aconitine, the alkaloid, can be depended upon to give the results claimed for it, and it is because it is potent, uniform, and dependable that thousands of physicians have learned to pin their faith to it in the treatment of febrile disturbances and wherever it is desirable to control pulse frequency or reduce high blood pressure.

No doubt many old readers of CLINICAL MEDICINE will recall an editorial published in these pages in June, 1909, in which we reported the results of experiments with four samples of the official tincture of aconite, secured from four Chicago drugstores, all located in the same neighborhood. These were tested on guinea-pigs, and it was found that, of sample No. 1, a dose of 1-2 minim produced toxic symptoms; for sample No. 2, the dose was 1 1-2 minims; for sample No. 3, it was 3 1-2 minims, and for sample No. 4, as much as 16 minims. This represented the variability in strength of these four different tinctures of aconite. Expressed in terms of the human animal, assuming 10 minims to be the average dose of sample No. 1, then 20 minims would have been required of No. 2, 40 minims of No. 3, and 160 minims of No. 4.

Doctor Robinson's experiments hammer home much more powerfully than we could drive it home ourselves the moral which we drew in that editorial, written six years ago, when we wrote:

"It's the whole galenical system that is at fault. When we concentrate a little of our pharmaceutic knowledge upon a study of our plant-drugs and their principles, with the single purpose of getting to *the real bottom* of drug action, we shall at least be on the right track.

"One of our friends writes: 'A patient asked me how much aconite was a dose. I answered that I didn't know; that of some preparations it was a drop, of others a teaspoonful—that I used the active principle, and the dose was always the same.' This, is seems to us, is the logical solution of the whole difficulty."

St. Clair McKelway, who edited the Brooklyn Eagle for so many years, used to say that he would write shorter editorials, only he hadn't time.—Collier's. Here too!

FURTHER USES FOR EMETINE

Emetine is a wonderful drug. Already it has been definitely and permanently credited with three important therapeutic fields of action in which it has proved itself to be virtually a specific; and it appears the end is not yet. Experimental research and clinical observation continue to be carried on and seem to be revealing still more scope, or at least greater possibilities, for this remarkable remedy.

Elsewhere in these pages will be found an abstract of an article from the pen of one W. A. Tatchell, published in *The China Medical Journal* of May, 1915 (the same quarter of the world, by the way, from which came the official confirmation of its specificity in amebic dysentery), giving a report of some striking results obtained from the use of emetine in pulmonary tuberculosis; not, however, as naturally might be supposed, in the arrest of hemoptysis, in which role emetine has already established itself, but in the general improvement of the patients and, what is yet more noteworthy, in the disappearance of the tubercle-bacilli from the sputum.

The report is, of course, too meagre and incomplete to warrant, as yet, any positive

conclusions, even in the cases reported, much less any generalizations concerning the effect of emetine, if any, upon the microorganisms or the lesions they produce. Nor are we unmindful of the inevitable tendency, even among scientists (who are just as human as other men), to exaggerate the virtues of a newly investigated and really wonderful remedy. Nevertheless, when all allowance has been made for these considerations, there is enough in Doctor Tatchell's report to make us "sit up and take notice." Certainly, this question is worth looking into, thoroughly and earnestly.

Tuberculosis is such a disastrous disease, and our present weapons of attack and defense against it so few and unsatisfactory, that anything which holds a promise of efficacy demands our painstaking investigation. On the other hand, emetine has, within the last few years, disclosed such remarkable therapeutic qualities in directions where they were least expected, that it will pay, in view of Doctor Tatchell's report, to conduct experiments with it in this newly suggested field. Inasmuch as emetine appears to be harmless when given in reasonable doses, there is no reason why it should not be given a thorough and complete trial in a long series of cases of tuberculosis.

The clinician and the laboratory man will need to collaborate in such an investigation; and, it is a worthy task for both. We earnestly invite those of our readers who are interested in this problem to undertake the clinical side of the experimentation. As already pointed out, there is little danger of doing their tuberculous patients any harm, and a very fair prospect of doing them much good. We, on our part, shall be only too glad to cooperate with those who will take it up, by carrying out the laboratory-tests. We shall be glad to hear from our readers who are interested in the subject.

THE CARE OF THE MOUTH IN CHILDREN

Now, that we are beginning to understand that the teeth, when diseased, are responsible for a very large amount of disease in other parts of the body, we can realize the importance of the movement, now assuming national proportions, for bestowing more intelligent care upon them, especially in the case of children. An organization devoted to this object is the National Mouth Hygiene Association, the report of the last meeting of which appears in *The American Journal of Public Health* for May; while in the same issue there appears an interesting symposium upon the care of the teeth, which deserves more than passing interest, in view of the surprising number of defective teeth found in our young people.

Some years ago, the Boston Hygiene Association gave out the statement that 95 percent of school-children have bad teeth. Dr. Oscar Dowling, in his discussion of this question at the meeting of the Association referred to, said, with reference to this statement: "I could not believe it, and in the first school that I went to after that I asked the principal that I might have the privilege of making a personal inspection of the children's teeth; and out of 100 children examined that morning I failed to find one that had perfect teeth. I could discover some slight defect in the mouth of every child I examined. I urged upon them the importance of using a toothbrush, endeavoring to teach them how to use it."

Even more conclusive testimony as to the prevalence of disease of the teeth in childhood is furnished by Dr. Harvey W. Wiley, president of the National Mouth Hygiene Association, in his address. He said that for some time the city of Washington had instituted a limited dental inspection of the children of the public schools. From the dental inspector, Doctor Wiley learned that 10,230 school-children between 6 and 16 years of age had been examined. Of these, 9071 had cavities in their teeth, and 468 had abscesses at the roots of the teeth. Altogether more than 32,307 tooth-cavities thus were found, an average of three for each child examined.

The effect of diseased teeth upon the child's education, development, and future health is far more serious than the majority of physicians have any idea of. There is the best of reasons for believing that this defect interferes seriously with the child's work in school. For instance, Ebersole, in an important paper, reports the results of clinical work done in one of the public schools in Cleveland. The children in that school were subjected to a careful and complete examination, and then the history and class-record of the children for six months before the treatment began were looked into. Psychological tests were made at the beginning of the treatment, to determine the children's efficiency; and then, after instructions had been given as to the proper care of the mouth and teeth, there was a remarkable showing made as the result of this experiment.

This experiment took in 40 children; and this is the encouraging record: During the succeeding year, not a single case of illness occurred in any member of this class. The school-records, as to the efficiency, attendance, conduct, and physical appearance of these pupils showed wonderful improvement, while, from a psychological standpoint, the mental tests demonstrated an average improvement of 99.8 percent for the 27 children finishing the course. A part of this improvement, Doctor Ebersole explains, resulted normally from the natural growth and development of the child, "but by far the greater part of the improvement was due to the correction of the faulty conditions found and the teaching of proper care and use of the mouth."

Another factor that must be reckoned with, and which is of importance in correcting these faulty oral conditions, is the fact that the mouth now is known to be the source of infection and the nidus for pathogenic germs in many common diseases, notably diphtheria, coryza, influenza, scarlet-fever, measles, and possibly whooping-cough, cerebrospinal meningitis, and pneumonia. A persistent habit of oral hygiene on the part of the child not only helps to insure the persistence of good health in the child itself, but makes it far less liable to become an agent for conveying diseases to others. As Doctor Ebersole says:

"Our methods of dealing with diseased mouths have been about on a par with the activities of an officer who, upon learning that a dog affected with hydrophobia was loose in the neighborhood, spent his time in warning people to keep off the street, to keep children in the house and their dogs chained up; making every effort to keep people and animals from coming in contact with the diseased dog, but making no effort to destroy the diseased animal. We have been laboring to avoid an effect without removing the cause."

We know now that the discharges from the mouth and nose of a child suffering from diphtheria and scarlet-fever are far more likely to cause these diseases in others than are the desquamated skin or soiled clothing.

Of even more importance, however, is the effect of continued mouth disease, and especially dental disease, upon the health of a child in later life. Thus, Doctor Wiley, in his fine paper, pointedly says:

"A decaying tooth is always a menace, and especially when the decaying process reaches below the gums. Ulceration, pyorrhea, or Riggs's disease, and other infections of the roots of the teeth are difficult of access and treatment, and for this reason are always to be regarded as dangerous. Aside from the pain and suffering which these diseases of the teeth produce, we must not forget the possibility of direct infection. Socalled blood-poisoning, even death, are frequent sequelæ of diseased teeth. Some forms of inflammatory rheumatism are thought to be caused by the infection of pyorrhea, and in general the health is injured in proportion as the teeth are affected."

Doctor Wiley refers with special emphasis to the importance of treating pyorrhea alveolaris, which he calls "the great white plague of the teeth"—a disease which, thanks to the introduction of emetine hydrochloride, now seems to be amenable to successful treatment; treatment which promises to be, as Doctor Wiley expresses it, "one of the therapeutic dental triumphs of the near future."

Furthermore, defective teeth are a threat to health, by reason of impaired mastication and consequently of digestion.

Developing this topic with greater detail, Doctor Wiley quotes authorities to show that focal mouth infections are now believed to be the cause of such common diseases as endocarditis, arthritis deformans, nephritis, myocarditis, goiter, and diabetes. Other men who, in this discussion, bore out this latter conclusion were, Dr. W. A. Evans, of Chicago, and Dr. George M. Kober, of Washington. As the latter pointed out, we now know that the destructive diseases of the teeth, resulting in a gradual absorption into the system of toxins from these infections, are liable to result in serious internal intoxication. Doctor Kober referred to the work of Doctor Collins, the celebrated neurologist, who has presented evidence that a large number of what formerly were considered functional affections of the nervous system really are organic in character and owe their origin to absorption of toxins resulting from diseased teeth.

In view of our tardy recognition of the extreme importance of the care of the teeth, it seems imperative that the medical profession should cooperate with the dental profession in bringing these facts to the attention of the laity, and that intelligent efforts should be made in all parts of the country, especially among school children, to teach the habit of mouth cleanliness and daily care of the teeth. Every child should use a toothbrush. Its importance should be taught in every school, and when the school cannot or will not do it, the physician should take up the subject with the child and his parents, and instil

into them a wholesome respect for the teeth as factors in health maintenance.

O beautiful for patriot dream
That sees beyond the years
Thine alabaster cities gleam
Undimmed by human tears!
America! America!
God shed His grace on thee
And crown thy good with brotherhood
From sea to shining sea!
—Katherine Lee Bates.

GO RIGHT ON IN USING NARCOTICS, DOCTOR!

Doctor, do not allow yourself to be stampeded by the Harrison anti-narcotic law out of your proper and legitimate use of the drugs in question. There is not the slightest intention in the law of any such interference with your work, nor is there anything in the provisions of the statute to hinder you from employing opium and cocaine and the rest of the group just as you always have done.

To be sure, the law does impose a few incidental duties upon the doctor in his use of these drugs; and, in our desire that our readers should know about these duties and not get into trouble through ignorance of them, we and other medical journals have published a great deal about this matter. All in all, it is not unnatural that many should have got the impression that, in some way or other, the law imposes a restriction upon the practitioner, designed to prohibit him from using the narcotics. Indeed, we *know* that some of our readers entertain this idea, for they express it in their communications to us. And a still larger number of our readers, impatient at the necessity of recording their dispensings, are figuring how they can get along without prescribing these remedies.

Neither of these positions is right. We repeat, there is neither intent nor provision in the Harrison law to interfere with the honest doctor. It isn't a medical-practice law, and it doesn't pretend to regulate the practice of medicine. It is not directed against the medical man at all. Even the slight duties that it imposes upon the doctor are not, primarily, for the sake of "keeping cases" on him, but of keeping tab on the "other fellow"—in other words, so that the federal revenue department may know what becomes of the narcotics that are being manufactured and sold.

And, after all, the things that the law requires of you are very, very simple, if only you make them so. Of course, there are a lot of queer, complicated situations and nice questions arising under the administration of it, but there is really no necessity for the doctor to bother himself about all these nice, disputed points. The simplest way, both for his own convenience and for conforming with the law, is, to keep *completely* within it, that is, to make a routine practice of keeping a record of *every* narcotic that he dispenses. It soon becomes an easy habit and relieves him of all further bother.

Having made up your mind to do this, and having supplied yourself with your registry number and order blanks provided by the revenue-collector, and secured a "Narcotic Register" from this journal, then forget the Harrison law. You are not required to make any changes in your practice of prescribing and dispensing the drugs in question, and you have neither moral nor professional right to make such changes. You are in duty bound to practice medicine, guided by the single thought of helping your patients; and, if one of these drugs is, in your judgment, the thing your patient needs, that is the one for you to give him—Harrison law or no Harrison law.

The law does not contemplate embarrassing or interfering with the legitimate work of the physician. Go right ahead, doctor, just as you did before there was such a law, only taking care to conform with its requirements.

DON'T FORGET CALCIUM SULPHIDE

In the rush of new remedies constantly crowding upon our attention, we are likely to lose sight of our old, tried friends. How can we continue to utilize the old standbys, when every month sees some new thing urged upon us with such insistence that we feel compelled to give it a trial?

In the realm of the management of infections, we have been thus constrained to admit the sera and the allied group of biologics, the testimony as to their utility being too strong to be overlooked. Nevertheless, it should not be forgotten that in the remedy designated by the Pharmacopeia as calx sulphurata we have a medicament of singular power. That it is open, free, not backed by any commercial interest, not restricted by any form of monopoly, should not militate against it. But, does it?

By the canal-system, the waters that are spread uselessly over wide areas are confined in a narrow channel, a water-road that may bear the argosies of commerce and convert the pestilence-breeding swamp into fertile farms. By concentrating, through monopoly,

the profits from an article, we fill the owner's pockets and cause him to push the drug by means of advertising. But we are not interested in his profits, and our sole query must be, What is best for our patient? In truth, we often find among the neglected remedies of the Pharmacopeia agents more valuable than any of the commercially boosted proprietaries.

Periodically calcium sulphide is revived, it is rediscovered; and each time the reports of its efficacy are so enthusiastic that a wave of optimism is set in motion. For a time, the journals teem with reports on its applications, then these gradually lessen, then cease; until, after a while, some striking instance of its powers occurs, to start a fresh wave of enthusiasm.

Given by way of the stomach, calcium sulphide presents none of the perils incurred by inhaling the gas. The writer has, personally, administered up to 50 grains daily of calcium sulphide of full U. S. P. quality, without its causing any evil effects. When the salt comes in contact with the acid gastric juice, however, decomposition lets loose volumes of sulphureted hydrogen, and the consequent nauseous eructations are unpleasant. Hence, the period of acid digestion should be skipped when taking the sulphide. With this exception, it may be given in small doses every waking hour, more or less, until saturation is evidenced. This latter condition is denoted by the odor exhaled by the skin. When this develops, the effect may be maintained by reduced dosage.

Two results are asserted to follow saturation: (1) No insect, fly, flea, louse, bedbug, chigger, redbug, mosquito, gnat, midge will attack a person thus sulphur-saturated; (2) no microorganism will continue to live, propagate or continue to exercise its malific functions in the body of such an individual.

Broad claims, these, and of unspeakable importance to humanity, if only they be founded on fact. Are they?

It can scarcely be believed that matters of such vital importance have not yet been settled conclusively. The clinical applications generally elicit results that arouse enthusiasm; still, there always is a large element of uncertainty about them when unsupported by modern scientific tests. When the epidemic of smallpox passed over the middle West, many observers testified to the control over the disease exercised by calcium sulphide. The affection was aborted in the earlier stages and consequently, the secondary, or suppuration, fever was prevented.

Doctor Ussher reported astounding success in treating and preventing smallpox, typhus, and scarlet-fever in his mission-work in Asia Minor. Part of this testimony has been confirmed since then by another medical missionary. At times, epidemics of diphtheria, whooping-cough, mumps, and other infections common to children have been successfully combated with sulphide-saturation.

We need more reports, founded upon careful disinterested observation. We need clinicians who entertain neither optimism nor pessimism, are neither carried away by enthusiasm nor animated by a settled determination to condemn. We especially need to demarcate the field, and this can be done only by recording our failures. What, if any, organisms show immunity against this potent germicide? What forms and phases of disease are uninfluenced by it? Does the gonococcus *ever* resist it?

It is useless to consult the "authorities." All they know is, that calx sulphurata is "good for boils"; and, yet, in the treatment of a succession of boils the writer met his first failure with this drug. The pesky things kept a-comin' until he put the patient upon Dunglison's forgotten saline—the sulphates of iron and magnesium, in small doses taken before meals.

Time and again, when children were exposed to mumps or whooping-cough, the writer has rendered them immune with calcium sulphide. The last example was a notable one. A whole camp of nonimmunes was threatened by the advent of a pertussis-baby. You couldn't keep the children away from that baby, nor be sure that everybody took calcium sulphide. So, we saturated the baby alone—and not one other case of infection occurred in that camp.

Next!

HOW THE PHYSICIAN MAY TEACH THE PEOPLE

If the spirit of the times calls (as it does) for life-insurance companies to go into the business of preventive medicine, it is equally demanding that medicine go into the business of life and health insurance: to indemnify people, not against the economic consequences of sickness and death, but against sickness and death themselves. It may appear a trifle gratuitous and ungracious to speak of the matter in this admonitory fashion, for medical science points with pride to the active position it has already taken and

the large things it has already accomplished in the way of public hygiene and prophylaxis.

However, we may, perhaps, be permitted to point out that all of this public preventive movement on the part of medical science has had its motive in a sort of *noblesse oblige*, rather than in the constitution of medicine itself. Not that we deprecate that attitude or its results—God forbid!—but we point it out for the sake of our present purpose. The point we wish to make is, that preventive medicine is being regarded and performed as an external, rather than an internal, function and, moreover, is delegated to a special division of medicine; and, what is more to our point, this activity is observed between medical science and the public as wholes, instead of between physician and patient, as units.

But the internal, the inherent unit-phase of it is coming, and coming fast, when every individual physician, by virtue of his calling, will be a health-insurance agent, whose paramount office, like that of the present day insurance man, will be to head off and weed out disease among his clients, by means of systematic education in prophylaxis, as the life-insurance companies now are doing by selection; while his subordinate, accessory business then will consist in treating and curing diseases that necessarily will occur as unavoidable accidents—or incidents—as insurance companies have to pay occasional death-benefit or accident claims. The spirit of health-insurance is in the air. Eventually, and not so far in the future, prophylaxis will come to be the essential element in the individual practice of medicine; and he is a wise man who aligns himself with this march of events.

One of our "family" has realized this important truth and has proposed to put it into practice in an exceedingly ingenious and practical way. He suggests a series of small, attractive leaflets, written in simple language, setting forth the rules of hygiene, for the prevention of this, that, and other disease—typhoid fever, syphilis, tuberculosis, and what not—for distribution by the doctor among his patients. At the foot of the title-page he suggests printing this note: "This leaflet is presented, for the use of his patients only, by Dr. ——."

As this wideawake physician points out, there is no time in a person's life when he is so amenable to influence and education of this kind as when he is being successfully treated by his physician and relieved of some physical disorder. During his convalescence, such a one is imbued with a feeling of gratitude to his doctor for his cure, a sense of thankfulness for the escape he has made from serious complications, and a determination that, if he can avoid it, he will never get into such a plight again or let anyone of his family get into it. At such a time he is exceptionally susceptible and tractable and offers a receptive field for the good seed of hygienic instruction.

We have persuaded our friend to permit us to give all our readers, through our pages, the benefit of his capital idea, so that all who wish to do so may avail themselves of it in their own relations with their patients. The first instalment of the material will be found in this issue of the journal, in the Miscellaneous Department. It is not offered as a word-for-word model, to be followed in detail (although anyone who wishes may do that, too), but more as a suggestion for the physician in carrying out the idea, which we consider an excellent one.

Such a talk to the public not only will spread a whole lot of useful information and instruction among a class of people who, as our correspondent points out, are in a particularly receptive frame of mind, but will bring the doctor who promulgates it into closer and wider touch with his patrons and his community, and thus indirectly aid in enhancing both his efficiency and his hold upon the people. It affords, in short, one means, at least, of "taking occasion by the hand" and of making the spirit of the times serve the doctor's interests in a perfectly legitimate way.

I believe in a man who takes what he thinks belongs to him, and holds it against the world; in the man who so loves life that he keeps a hearty appetite for it; who is ever ready to come back smiling for another round with the world, no matter how hard he has been punished.

—Price Collier.

THE PERSONAL SERVICE OF THE DOCTOR

The practice of medicine can never be reduced to a question of serums or of drugs. There never will come a time when the world can do without the personal service of the doctor himself—wise, kindly, knowing, prescient. Never has there been a time when he was more needed than now; when the coin-in-the-slot department-store medication was further from the people's needs.

Here is a woman, thirty years of age; wife of a farmer. She has four children under six years: the eldest, a fine, hearty, active, quick-witted boy; the second, a girl of four,

bright enough, who hangs shyly to her mother's skirts and eyes the stranger closely from that safe refuge; the third, a boy of two, who has never talked, enunciating a word occasionally, his vacuous countenance speaking of adenoids; her fourth is a babe of eight months, with no teeth, still wide-pulsating fontanelles, and with a face so expressionless that the mother cannot tell whether her child has its sight.

The mother is meager, with sunken cheeks, drooping shoulders, tired-out expression. She has borne three children besides doing the work of a farmer's wife—her training for which having been that of a school-teacher.

What's the matter with the family?

Need we ask?

There is a clear, clean family history on both sides—neither neurosis, syphilis, alcoholism or dissipation. The husband is straight and manly and as considerate of his wife as his circumstances admit. They have a farm of thirty acres nearly paid for, and a 3000-egg incubator outfit. It's simply a matter of work, this thing of doing all of the farm work unassisted.

Make the diagnosis as you please. Luckily the woman broke her wrist and, so, the aid of another woman for some weeks was unavoidable. In this time she picked up strength and her face actually began to show some animation.

Prescription: A gallon of codliver-oil; a pound of bone powder; the oil to be crowded for mother and both the younger children; the bone to be taken regularly in generous doses. Eat eggs, milk, cream and oatmeal, corn-meal, whole wheat, liver, fruit of every accessible kind. Mother and children must be in the direct sunlight every possible minute. Sleep in a sheltered porch. *Rest, Rest, Rest.*

The calcium lactophosphate we used to prescribe for such cases seems to be no longer procurable—that supplied by the pharmacies now is not water-soluble. What is the reason?

The 2-year-old's adenoids must be removed. Probably the infant also is affected with them, or will be. He should wear a woolen undershirt, saturated with codliver-oil, his outer clothing protected by a shirt of oilsilk.

Despite the advances in the way of labor-saving appliances on the modern farm, the much-lauded telephones, trolleys, patent churns, dish-washers, clothes-washers, bread-machines, the fact remains that the farmer's wife has to work to the fullest limit of her powers, just as her pioneer great-grandmother did; but she hasn't the physique of her ancestress back of her. She has the spunk—bless her—and stands beside her man, a worthy helpmate in his work of wresting a home from the desert. Still, the modern farmer wears out a wife in about so many years. Was it always so? Take a trip from Philadelphia to Harrisburg. Note the broad, fertile acres, perfectly equipped, cultivated to the top of the possible, every stone, stump and root eliminated, and ask how many women's lives have gone into those farms.

The children?

Every time we meet one of those sacrificed mothers we ask, Is it right that she should be sacrificed to the needs of the future race?

Yes, it is right. It is necessary, inevitable.

Maternity means suffering, indeed, so grievous that we *know* there is a heaven—there must be, to compensate motherhood. But it is the suffering for which we are sure there is a recompense.

One woman in this writer's practice brought forth her baby so easily that he asked the mother why she insisted upon lying in bed the conventional ten days. The startling reply came: "That's what I have a baby for—the ten day's rest!" Think of that, ye ignorant ones who do not realize what is woman's work!

Another woman came to the writer's office, weeping—she had given birth to twelve children and found the thirteenth coming; she was "so busy attending the brood that she could not help along by taking in boarders—couldn't I help her out?" Yes, I did, by persuading her to bear her burden. The child came, and when it was a few months old the mother, one day, burst into my office with "Oh, doctor, my baby—my baby is sick, come quick." Said I to her: "My good woman, a few months ago you wanted to get rid of that baby. Now that it is born and baptized, why not let it——" But here the mother broke in: "Shut up your damned nonsense and come to my baby!" I went to her baby, and again I uncovered my head reverently to that most divine thing on earth—true motherhood.

Leading Articles

The Treatment of Whooping Cough

By Philip F. Barbour, M. D., Louisville, Kentucky

Professor of Pediatrics. University of Louisville.

EDITORIAL NOTE.—Whooping-cough is pre-eminently the disease of childhood. For years it was regarded as a mild and relatively unimportant ailment, and the custom was to allow it to run its course, on the plea that it is a self-limited disorder, and that every child must have its attack of whooping-cough. More recent knowledge of the disease and its results, however, have shown that this attitude is not justified. The direct mortality from whooping-cough in New York City is as great as that from typhoid fever. And its direct mortality is not its only danger; for not infrequently it results in serious, permanent sequelæ. It is fitting, therefore, that the Treatment of Whooping-Cough should stand at the head of our symposium upon children's diseases; and we are fortunate in having it discussed by so able and experienced an authority as Doctor Barbour.

THE successful treatment of whooping-cough is dependent, in a large measure, upon an early diagnosis. It is well known that the bacillus of Bordet and Gengou, the pathogenic agent, apparently is short lived. It is difficult to recover this bacillus from the sputum after the whooping-stage has become well developed. In the majority of cases, then, we are treating the effects of the infection rather than the infective principle itself.

The Vaccine Treatment

The vaccine-treatment has not as yet proven either very reliable or successful. It may be that the dosage has not been sufficiently high or else that at times the organisms are in such relation to the circulation in the bronchial membrane that the action of the ferments of the blood upon the organism is not favored. Some writers seem to think that the bacteria will be found between the ciliated epithelial cells, where the blood does not have a fair chance to exert its enzymic action. The prophylactic administration of this bacillus does not seem to the essayist to have produced any definite or marked results.

In spite of this rather faint praise, it is the writer's custom to administer the vaccine in babies of a year or under, because one does not feel like omitting from the treatment anything which offers any prospect of relief.

The disease has many and various complications and sequelæ and is especially fatal in bottle-fed children under a year of age. The liability to pneumonia, both lobar and bronchial, to diarrheal disorders, convulsions, disturbances of the special senses, and chronic hyperplasia of the bronchial lymphatic glands—the latter a constant menace from tuberculosis—makes whooping-cough a dreaded disease in the young infant.

Calcium Sulphide Valuable

A far more reliable treatment than vaccine-therapy for whooping-cough, in the writer's experience, has been that with calcium sulphide, begun at as early a date in the disease as possible. This drug should be given to the point of saturation. When this is reached, the paroxysms not only will be milder, but further apart. It is particularly important to use a preparation of calcium sulphide that has not undergone oxidation.

If this treatment is begun during the catarrhal stage, the convulsive period will be greatly shortened and rendered less violent. Consequently, it is important for the physician to recognize whooping-cough in its pretussive stage. It is necessary that the patient's bowels be kept thoroughly open; because, for some reason, calcium sulphide does not exert its full benefit if constipation is present to an extent.

When the whooping is well established, it is very desirable to employ additional, supportive, treatment. One of the most satisfactory among such measures, in the writer's hands, has been, to give sodium bromide and antipyrin, administered in some palatable vehicle. An adequate dose of this mixture should be taken every two hours, for two days, followed by quinine, in relatively large doses (for the age of the sick child), for one day. This treatment (the calcium sulphide

and the alternating bromide mixture and quinine) should be persisted in until cured. A very valuable combination is that presented in Cushman's whooping-cough granules.

When Atropine Is Indicated for Pertussis

When the paroxysms are particularly violent and accompanied by bleeding of the nose or other evidence of rupture of the capillaries, atropine should be administered in rather large doses, in order to secure relief. However, the characteristic action of atropine —the suppression of the secretions of the mouth and the dilation of the pupils of the eyes — constitute disagreeable side-effects; hence, it is resorted to only in particularly severe cases.

Controlling the Vomiting

Vomiting is an annoying and exhausting feature in many cases that have run too long. The feeding-times should be arranged, if possible, so that the child will be fed after a paroxysm of coughing and vomiting, so that the food may have a chance to be retained by the stomach for an hour or two. Because the nourishment so largely is thrown up, it is well to feed these children with highly nutritious food at frequent intervals. Five feedings a day, for the older children, will not be too often when the vomiting is intractable. The Kilmer belt, applied around the lower ribs tightly enough to exert a firm pressure, many times has proved very serviceable in controlling the vomiting.

It is important that the general hygiene of the child be carefully watched, because conditions that would be injurious to a child suffering from ordinary bronchitis will aggravate the paroxysms of whooping-cough. The child should be guarded against getting wet, exposure to draughts, from dust, dirt, and a close atmosphere of the room, and should be sufficiently clothed. Fresh, clean, air, such as is found over a large body of water, often is of great help. Rooms in which the child stays should be ventilated frequently; at any rate, there seems to be a possibility of the child's being reinfected by the bacteria expectorated by himself, so that airing the room, and also using certain antiseptic vapors, will moderate the attacks.

Physicians, then, should be educated to the importance of the prevention of whooping-cough in very young children. Many practitioners do, indeed, look upon this infection as a very distressing disease, but not many among us realize sufficiently its intrinsic dangers, so that, with regard to the family, they fail to emphasize the fact that not only should the younger children be protected, but too often they neglect to employ what constitutes a real treatment for the disease. The laity have felt that not very much can be done in the way of treatment, and, unfortunately, some physicians actually have yielded to this impression and have not exerted themselves trying to afford the relief that really can be obtained.

Palatable Prescribing for Children

By George H. Candler, M. D., Chicago, Illinois

EDITORIAL NOTE.—A symposium devoted to the treatment and management of diseases of children would certainly be incomplete without a consideration of this very practical question. The "secundum artem" stipulated by the pharmacopeia in the preparation of medicines must, in these days, be extended to include the art of making them agreeable to take, at least where children are concerned. No matter how effective a remedy may be in itself, it is of little use unless it can be gotten into the child's inside; and the days of poking it down with a long wooden spoon are past and gone. Palatable medicines are a large factor in the doctor's success with children. And, incidentally, it may be added that children are not the only ones that like their medicines to be palatable.

DESPITE the opinion still held by many people that medicine, to be "really worth while," must be either nauseous or evil-smelling (or, better, both), the doctor who "sugarcoats" his pills or dispenses mixtures which, though not exactly delectable, are free from distinctly disagreeable features finds his clientele steadily increasing.

Time was, it is true, when "tasteless medicine" often proved inactive, also, while the Homeopath with his sugar disks and pellets (which, as a rule, could be taken *ad libitum*) gave a further impetus, among the masses opposed to infinitessimilia, to the idea that all "good" medicine must of necessity be objectionable to the palate. Yet, the homeopathic practitioner was kept busy, whereas the old-school physician, with his bitter, griping draughts and nauseating bulky powders, found the women and children developing decided homeopathic leanings.

"For all simple ailments," the head of a

large family once said to me, "I employ Dr. A—, because he gives the children medicine I can get them to swallow, and he doesn't employ dangerous drugs."

"But, Madam," I argued, "socalled 'simple ailments' may at any moment become serious ones, and it is only the skilled physician who can safely say when the border-line has been passed."

"Oh, well," she replied, "I've brought up enough children to know when they are really ill, and then I send for Dr. B—; his medicine certainly is bad to take, but it does the work."

There, probably, is the real gist of the whole thing; people want medicine that will "do the work," and for generations they have been taught—by experience and precept—that all effective remedies taste disagreeable. Consequently, it is up to the modern physician to demonstrate conclusively that potency and palatability not only *can* go together, but that they actually *do*.

As a matter of fact, there now is little or no excuse for giving to a sick child such fearsome things as, for example, Gregory's powder or rancid cold-drawn castor-oil. These, with the sulphur-and-molasses compote of our childhood and the dreaded "black draught" should be—and to a great extent doubtless are—relegated to oblivion. But even today, without any thought as to whether they could be bettered, the average doctor continues to prescribe large doses of the most obnoxious mixtures, many of the formulas, indeed, having come down from the "dark ages" or at least from a period when "elegant pharmaceuticals" were unobtainable and even undreamt of.

A few minutes' study of the prescription-files of any drugstore will prove conclusively that most physicians, however earnestly they may strive for efficacy, make only the most futile attempts to secure palatability. Some few men, "wise in their generation," do dispense or prescribe unobjectionable medicines to some of their more "particular" patients, but continue to dose others with decoctions and jorums that would disable a fairly sensitive mule.

A Practical Test

Not very long ago a busy physician in Kentucky told me that the little pills and tablets of the active principles really might be superior and meet every need of city practice, but they could not be used for a day in that region. "If I gave a dozen of those things to one of my people," he chuckled, "they'd swallow 'em all at once and then go five miles to another doctor to get a pint of real physic."

I asked the privilege of putting the matter to a test then and there, and, calling in a typical "oldtimer," whose "misery wuz in his stummick," told him very earnestly that nine-tenths of the medicine he had been taking was water and a great deal of the remainder but ill-tasting material without any remedial properties.

"Here in this little pill," I said, "is all the real medicine you would get in a tablespoonful of the doctor's mixture. Take it, chew it and tell me if you know you have received something."

The granule contained glonoin, and in five minutes the man realized that "good goods often come in small packages." Convinced of this fact, "oldtimer" demanded, and received, some pills of quassoid, berberine, and papain, with capsicin. His "stummick misery" yielded to those little things as it never had to the local doctor's "digestive dope," and he has, after a few weeks of proper medication, ceased haunting the doctor's office.

A score of other patients were treated along the same lines, and in that region, it is safe to say, "tasteless medicine" is thoroughly accepted as effective. A very few doses of aconitine, strychnine, apomorphine, quassoid, aloin, podophyllin or pilocarpine will serve to convert the most obstinate large-dose-of-nasty-medicine individual, while mothers, and children especially, will, if given a chance, positively fight for the doctor who spares them the swallowing of sickening doses.

Overcoming Prejudices

I am perfectly aware that the "pill-and-tablet doctor" has, in certain sections, a definite prejudice to overcome. *All* pills and tablets—beautifully coated though they may be—are not to be regarded as "active remedial agents." The cheap tablet is an abomination to the conscientious internist, *but*, is the inert drug it contains any the more effective if given in the form of a fluid extract, powder or decoction?

On the other hand, when it is possible (as it is in the majority of cases) to extract from a bulky mass of drug the small quantity of really useful material it contains, is it not a common-sense procedure to administer it in a form that will not prove objectionable to the recipient? Certainly, there can be no excuse for deliberately making any remedial agent "taste like medicine," that is, nasty.

Naturally, it is in pediatric practice that pleasant medicines mean most. Every practitioner of any experience has seen sick children made worse by the administration of some particularly objectionable preparation, and a temperature rise of a degree or more following the fight to "get down" a dose of castor-oil. The latter unquestionably is a useful purgative; still, 1 dram of it in conjunction with 1-8 grain of phenolphthalein will prove more effective than a whole ounce of the oil alone. Moreover, if the smaller quantity of the oil is given with some orange-juice, almost any child will swallow it without protest. Furthermore, nowadays sweetened and flavored preparations are readily obtainable. Castor-oil powders (in my own practice, at least) have not proved satisfactory.

Calomel, in minute doses (gr. 1-10), with saccharin and aromatics, can be given even to infants without the slightest difficulty; indeed, most children will ask the doctor, when he calls, for some of those "pink tablets." Phenolphthalein with calomel and an aromatic body is another very desirable and generally indicated laxative. So, also, is the combination of phenolphthalein, sulphur, senna, and extract of glycyrrhiza, as devised by me some years ago and presented in tablet form under the name of thalosen.

Some Worthwhile Hints

All the alkaloidal granules can easily be administered with a swallow or two of water or fruit-juice. Now and again, however, a powder will best meet the requirements, in which case, the alkaloidal tablet-triturates should be employed. For this purpose, one or more are crushed together with a little sugar and a flavoring tablet of clove, peppermint or cinnamon, and the resultant powder divided into the desired number of doses. These will be taken by even a "spoilt baby," especially if a flavored placebo tablet be given immediately afterward.

Some physicians say that they have "no time to crush up tablets." In order to practice medicine successfully, it is necessary to take time to do things as they should be done, and the necessary pulverizing can be performed while the ordinary directions are being given. If, for instance, the doctor desires the patient to receive one-fourth of an ordinary tablet-triturate every two hours for twenty-four hours (twelve doses), he will drop three tablets onto a powder-paper folded lengthwise and add two flavoring tablets and a small halfteaspoonful of milk-sugar or ordinary granulated sugar. A few smart raps with the handle of a table-knife upon the folded paper will effectively crush the tablets, when it is but a moment's work to secure thorough commixture by pressing and stirring with the blade. The mass is then levelled up, squared off and divided into twelve equal portions, and directed to be administered one portion every two hours, the powder to be dropped upon the tongue and then following immediately with a swallow or two of water. A "candy" (flavoring) tablet may then be given as a reward of virtue.

Acceptable solutions can be made just as readily, the necessary number of granules (or tablets) being dissolved in twelve teaspoonfuls of *boiled* water. Sugar, honey or glycerin may be added; the latter being particularly desirable when *concentrations* are being used. Personally, I use aromatic elixir extensively and vary the flavor by means of a few clove, cinnamon or peppermint tablets. Anywhere, under any circumstance, the physician who has saccharin granules and a few flavoring and coloring tablets in his medicine-case can dispense thoroughly effective and decidedly palatable medicine.

Calx iodata (calcidin) seems to cause trouble to many. As a matter of fact, this is one of the most easily given remedies. Few children object to the powder itself, if it is given in small quantities on the tongue and with water; and a solution sweetened slightly with sugar and flavored with clove is usually regarded as a "treat." My own youngsters ask for it every hour or so. Here, again, the aromatic elixir may be used with advantage. If it is necessary to dispense four, eight or more ounces of a solution from the office, always use one part of aromatic elixir or of elixir adjuvans (simple elixir with two ounces of fluid extract of licorice added) to three of water, substituting mucilage of acacia if the essential ingredient is insoluble. Do not forget to attach a "shake" label.

Practically every useful tonic or alterative is now obtainable in the form of small coated tablets. A properly made tablet is really the best form in which such medicines can be presented, and any child can take them. Moreover, with a few exceptions, the dosage is such that one may be given to even a young child. When further division is essential, the uncoated tablet is to be preferred, of course, and, as the doctor knows fairly well the demands of his practice and the formulas he uses most, it is a very simple matter to keep properly supplied.

While the average patient offers no protest, some very nervous women, also a few over-indulged children, will assert positively that they cannot swallow a granule, pill or tablet. In such a case, ask the patient to chew up a piece of bread and hold the bolus in her, or his, mouth; the pill or tablet is then placed on the tongue and the person is instructed to swallow everything together and then take a small drink of water. The medicine goes to the right place without the slightest trouble and, as a rule, the recipient realizes that, after all, his gullet really is like other people's and quite large enough to permit the passage of a small tablet or pill!

Some patients very strongly object to sweetened medicine. In such cases, solutions may readily be acidulated by the addition of a very little acid, for instance, citric or tartaric.

Of course, the thoughtful physician will hit upon many other ways of making his medicines agreeable; just how he accomplishes that end is not so important as that he does so. Moreover, every practitioner desirous of attaining real success will use the small dose of a really active drug whenever he possibly can do so and teach his patient that it is quality, not quantity (and nastiness), that counts in prescribing.

Masturbation in Children

By William J. Robinson, M. D., Ph. G., New York City

Editor of the Critic and Guide, and of the American Journal of Urology; Author of "Never-Told Tales," "Sexual Problems of Today," "Sexual Impotence," etc.

EDITORIAL NOTE.—With his customary bold and trenchant pen, Doctor Robinson writes into this morbidly-treated subject a whole lot of much-needed wholesome common-sense. He brushes away all the cant which prudes and sensation-mongers have gathered around it, and deals with the matter from the sheer standpoint of sane and enlightened science. It is the standpoint from which every medical man should view the subject.

IT IS not my object to write an essay on the subject of masturbation, to discuss its prevalence, its symptoms, sequelæ, treatment, moral aspect, and such like phases; I have done this elsewhere.* My object here is, to bring, to the attention of those members of the medical profession who do not follow up the latest investigations in the interesting field of sexology, the fact that of late years a great change has taken place in our attitude toward the phenomenon, or habit, of masturbation. Considering its virtual universality, some sexologists do not hesitate to characterize it as a normal *physiological* function.

But, whether one is willing to go that far or not—in other words, whether we consider masturbation a normal physiological or a morbid pathological phenomenon—the opinion among sexologists seems to be unanimous, that its evil results have been grossly exaggerated; that in the vast majority of cases it leaves no injurious effects whatever; that in a certain percentage of cases there do follow injurious results, but that these are of a temporary character, disappearing with the cessation of the habit; lastly, that only in a very small percentage of cases the results are disastrous, and then only when the practice has been indulged in excessively. And it is further asserted, that an investigation would show that the practice is indulged in excessively only by children who have some hereditary neurotic taint, or, in other words, even in excessive masturbators, the evil effects observed are not exclusively a consequence of the masturbation, but, rather, of the neurotic diathesis, the lack of nervous equilibrium, which originally drove these children to excess.

*A Practical Treatise on the Causes, Symptoms, and Treatment of Sexual Impotence and Other Sexual Disorders in Men and Women.

Harmfulness of the Old Attitude

The modern attitude toward masturbation should lift a heavy burden from the shoulders of thousands of fathers and mothers, as well as of their children. When the parents make the "awful" discovery that their child is fondling its genitals or is indulging in masturbation, they feel as if a great calamity had befallen them. They could not feel worse if they learned that the child was a thief or a pyromaniac. Imbued with the medieval idea of the "sinfulness" of the habit, as well as its injuriousness, they begin to scold the child, to frighten it, to make it believe that it is doing something terrible, that it has disgraced them and itself; and they try to per-

suade it that, unless it stops immediately, the most direful consequences are awaiting it. The results of this mode of procedure are disastrous—much more so than the masturbation itself.

Often the scolding and the exposure of the child are done in the presence of others. This implants in the poor boy or girl a sullen resentment that only makes it more difficult for it to break the habit. When the child is brought to the physician, you can see by its behavior, by its downcast looks, by its sulkiness, by its attempt to refrain from tears, and other signs, that it regards the physician in exactly the same light as a youthful criminal regards the judge before whom he has been brought for trial.

It is time, high time, that this silly and injurious attitude toward a practice, which is wellnigh universal, be radically changed. It is time that parents and physicians do learn that the injuriousness of the habit has been greatly, grossly exaggerated. It is time that they should know that the vast majority of boys and girls get over the habit without being much, or any, the worse for it. The knowledge of this fact not only will save themselves and the children much needless anguish and suffering, but will make it much easier to deal with the latter, and to get them divorced from the habit.

If we look at the matter in a sensible, sommon-sense way, and do not tell the child caught in the practice that it has done something disgracefully vicious and criminal, but speak to it kindly and tell it that it is doing something that may injure it greatly, that may interfere with its future mental and physical health and development, then we shall have far greater success in our endeavors to break the boy or the girl of the habit of masturbation. As I have already said in another place:

"In my opinion, stigmatizing even the most moderate indulgence in masturbation as a vice has a deleterious effect upon the people who so indulge and makes it harder for them to break off the habit. Every thinking physician and every thinking parent can tell you that picturing the masturbatory habit in too lurid colors and stigmatizing it with too strong epithets has, as a rule, the contrary effect to the one expected. The victims of the habit consider themselves degraded, irretrievably lost. They lose their self-respect, and it is, on account of that, harder for them to break themselves of the habit."

We shall accomplish a good deal more with our youthful and older patients if we leave alone, altogether, the moral side of the question—if there be any moral side to it—and emphasize the physical injuriousness of the habit. We do not want to diminish the self-respect of our boys and girls, we want to increase it; and we can not do this if we make them believe that a masturbator is a vicious criminal. Inspire your patients with confidence, tell them that indulgence in the habit jeopards their future growth, both physical and mental, their health and happiness, and you will find them easier to control.

I am not trying to minimize the danger of masturbation, for, if indulged in from an early age and to great excess, the results may be disastrous. But, even if I were to minimize the evil consequences, that would be less of a sin than to exaggerate them the way it has been done for so many years, by so many people in the profession and out of it. The evil results of exaggerating the influence of masturbation have been so great in the past that, if now the pendulum were to swing to the other extreme, I am sure it would not be a bad thing, at all.

To deal adequately with the subject of the treatment of masturbation, would occupy more time than I can spare at the present moment. But, a few remarks on how to prevent children from acquiring the habit of masturbation will not be out of place.

Prevention of the Habit of Masturbating

The keynote of preventing the habit is, carefully to watch the child from its earliest infancy. We know that not infrequently stupid or vicious nursemaids, wet-nurses, even governesses ignorantly or deliberately induce the habit in children under their charge. This, of course, must be prevented. Even children of the age of nine, ten, eleven years should not be left alone, but always be under supervision. Too close friendship between boys or girls, particularly of different ages, should be looked upon with suspicion. Boys of fourteen, fifteen or sixteen years of age do not, as a rule, make good companions for boys of ten or eleven.

A number of boys or of girls never should sleep in the same room without supervision by an older person.

The sleeping together of two in the same bed, whether it be two children or a grown person and a child, should not be permitted under any circumstances. I admit of no exceptions to this demand. It makes no difference whether the other person is a mother, a father, a brother or a sister. Leaving out of

the question any *deliberate* element, the thing is dangerous; for, very often, unintentionally, unwittingly, masturbation is initiated by this intimate contact.

The child—boy or girl—should sleep alone, on a rather hard mattress. The covering should be light. A coverlet may be put over the feet. The child always should sleep with the arms out upon the cover or blanket, never *under* the same. If this is done from childhood on, it is very easy to get used to this way of sleeping, and many a case of masturbation will thus be obviated. The child should not be permitted to loll in bed: it must be taught to get up as soon as it awakes in the morning. The general bringing-up must be of a strengthening, hardening character; and this applies both to the body and the will. When the child reaches the age of nine, ten, eleven, twelve or thirteen years (we must use discrimination and judgment, for, some children of nine are as developed as are others of thirteen), we must tell them that it is bad and injurious to handle one's genitals, and we must warn them to shun any companions who wish to initiate them into any manipulations of these parts or who show an inclination to talk about the sexual organs and sex matters.

Hot baths are very injurious for young children in their influence in this direction. There is no question that a hot bath has a very decided stimulating effect upon the sexual desire of adults as well as of children, both male and female; in fact, I have had several patients of either sex tell me that their first masturbatory act was committed while they were in a hot bath. Of course, the sensation having been pleasurable, they kept on repeating the experience.

Here is one little point about the garments of boys to be borne in mind: their trousers should be made without pockets. Namely, by their constant fiddling about with their hands in their pants' pockets, they frequently get into the way of masturbating, and many even will make a hole in the lining, to enable them thus to carry on the practice.

Furthermore, every factor liable to give rise to the habit should be removed. Thus, for instance, phimosis, eczema about the genitals, strongly acid urine, seatworms, and the like, should be treated and removed. The prepuce as a factor in leading to masturbation has never been sufficiently emphasized. However, the prepuce *is* a great factor, so that circumcision often becomes imperative and should not be neglected.

That anything having a tendency prematurely to awaken the sexual instinct should be rigorously avoided, goes without saying. Musical comedies and certain vaudeville shows exert a pernicious influence in this respect. I do not demand any censorship over our theaters, I simply am stating facts. Many of my patients told me that their first masturbatory act took place when they were attending some musical show. Much as I believe in freedom, I nevertheless would strongly urge parents to keep their boys away from sensuous musical comedies and obscene vaudeville acts.

In conclusion, I will say, that I could give the life-histories of hundreds of people who, as boys, practiced masturbation quite regularly and steadily, but have grown up to be healthy, energetic, successful men, the habit apparently having produced no ascertainable effect, either upon their physique or upon their mentality.

NOW forget your haste, just for a second or two, let go pushing the train you are riding in, stop trying to do all your work at once; and perceive how deliberate, how regal, how indolent your soul is, how sure of itself, how indifferent to the petty chances of punctuality or accomplished toil.

—Bliss Carmen.

Chorea: Its Nature and Treatment

By Thomas G. Atkinson, M. D., L. R. C. P. (Lond.), Chicago, Illinois

Formerly Lecturer on Diseases of Children, Chicago College of Medicine and Surgery (Medical Department of Valparaiso University)

EDITORIAL NOTE. The medical concept of chorea has lately been undergoing something of the same kind of modification as that which rheumatism (with which it is so closely allied) underwent some twenty years ago. The biologic concept has largely given way to the doctrine of infection. Doctor Atkinson believes that it is a mistake to tie up to either extreme view; that both factors play an important part in the disease; and that intelligent treatment can be carried out only upon this broad understanding of chorea.

THE controversy concerning the etiology of chorea that has been, and still is, being waged by the advocates of the defective-theory, on the one hand, and by the proponents of the infectious-doctrine, on the other hand, has, to my mind, an academic interest rather than clinical importance.

Personally, I cannot bring myself to "enthuse" over one extreme view or the other. To me, the existing facts are plain enough, and neither necessitate nor admit of being woven into any ingenious single theory. To deny the influence of biologic defectiveness is to ignore a set of conditions that stand out conspicuously before the eyes of every man who has to deal with a case of chorea; and, to negate the role of infection is similarly to overlook an equally obvious set of conditions which, if they are not an inherent or integral part of chorea, at least enter into the clinical picture of every case.

Yet, it must be admitted that either of these pathologic groups or, for that matter, both of them may be present in a patient, without constituting chorea; and one does not need to predicate any distinctive character for either group. The defective conditions are of a common type, such as may or may not result in chorea; the infectious elements are of an equally common type, such as are found in countless diseases other than chorea.

Chorea, therefore, in my opinion, is to be regarded, not so much in the light of a disease-entity made up of either or both of the pathologic groups referred to, as rather a denouement precipitated by the joint effects of these groups, much as ebullition of a liquid may be the result of the interaction of two chemical substances in a solution.

From the biological standpoint, chorea is one of a group of socalled functional nervous diseases. A certain family-likeness runs through the entire group. Biologically, they all rest upon an underlying condition of biologic instability, owing to defect in the germ-plasm, and ramifying into heredity and developmental stresses. This instability manifests itself, so far as the nervous system is concerned, in one of three general modes, namely:

a. Organic; of which porencephaly, cystic brain, and hydrocephalus are typical examples.

b Psychic; of which hysteria is a mild expression and the psychoses more extreme forms.

c. Functional; of which epilepsy, chorea, and neurasthenia are types.

The essential symptom-complex of the last group (*c*) is the same in each case, namely, a constitutional neuromental inadequacy to the normal demands of living. Being developmental in character, they are prone to manifest themselves during periods of developmental stress, such as dentition, adolescence, puberty, pregnancy, and subinvolution; and the particular form that their manifestation takes, whether epilepsy, chorea or neurasthenia (or, for that matter, any of the other forms), depends upon a multitude of collateral influences.

The choreic in nervous development is ahead of his game. He is precisely the antithesis of the epileptic. His neuromental self develops at the expense of his physical. He is precocious both mentally and neurally. His cerebrospinal system is exalted and hyperesthetic. His metabolism is vitiated. His mentality is brilliant, but shallow. He learns with rapidity, but cannot keep up the pace. His irritable nerve-centers keep his muscles in continual motion, but there are no toxic seizures, as a rule. His reflexes are all exaggerated. If not relieved, he becomes nervously exhausted.

On the other hand, his body is underdeveloped and inadequate. His circulatory and glandular systems, especially, which naturally always are under stress in the growing child, suffer much damage. The heart—well known to be small and normally barely sufficient in children—is weak and irritable. His tonsils —distinctively the defenses of childhood—are not equal to their task, become hypertrophied and degenerated and, as a consequence, let in

a host of the common bacteria, to wit, the streptococci, the pneumococci, the colon-bacilli, and all that ilk, so that we invariably find a routine history of a more or less regular train of infectious and postinfectious disorders (tonsillitis, rheumatism, endocarditis, and so on), all of which react upon the already defective mechanism of the body and thus close a vicious circuit.

The Diagnosis

The diagnosis of an established case of chorea is not very difficult; for, as I have said, chorea, in its technical sense, consists in the precipitation of a certain nervous denouement, namely, the well-known muscular spasms. When these are established, the only question of diagnosis lies between true choreic movements and habit-spasm.

The differentiation really is very simple. One has only to bear in mind that the movements of habit-spasm are normal, coordinated ones, being, in fact, imitations of actual movements, while those of the choreic are inimitable and incoordinated, such as nobody could intentionally produce. It may be added that the movements of chorea as a rule subside during sleep and when the child is at rest, while imitation and habit-spasms are, if anything, worse during repose. But this, of course, is not so constant a distinction as is the former.

Broadly, however, the diagnosis of chorea involves a recognition of the general condition which forms the ground-bundle of the specific disease, and which makes every victim a potential choreic. The undersized and inadequate physique, the mental precocity, the easily induced fatigue, the anemia, the extreme nervousness, the insomnia, the dyspepsia and anorexia, and, finally, all the signs of tonsillar infection—including rheumatism, arthritis, endocarditis, with valvular lesions—these are the landmarks by which one may recognize the choreic state, or, perhaps, it would be more correct to say, the prechoreic state, and by judicious care and treatment often may head off the denouement.

There are, of course, borderland cases, in which one hardly can say whether the condition is one of epilepsy, chorea or hysteria, particularly in the early stages, before the special phases have developed. Many such cases never do proceed to a frank development, so that, for lack of any better differentiation, we distinguish them as hystero-epilepsy, epileptiform chorea, and by other terms. There is no doubt that the types really *are* overlapped, confirming the view that I have rather roughly set forth about their underlying biologic identity. It is impossible to go into the vexed question, in this brief article, of the differential interpretation of these borderland cases.

The Treatment

Since chorea primarily is biological in character, there can be no therapy that will reach the underlying state upon which it rests. Happily, in all such biologic instabilities, there is a tendency on the part of the organism to restore equilibrium, provided the task presented be not too hard. Thus, chorea often disappears spontaneously at puberty, when the heart enlarges and all the organs and functions of the body come into a fuller capacity. The aim of our therapy, so far as this aspect of the disorder is concerned, should be to assist in the restoration, by giving the body every possible chance.

It is plain, therefore, that there are involved three basic principles in the treatment of chorea; namely: (1) to remove all foci of nervous irritation and leakage; (2) to correct vitiated metabolism and assist functional efficiency; and (3) to sedate the irritable nerve-centers to the point of steadying, but not of intoxicating, them pending the restoration of stability.

As to the first of these indications, while I do not believe that focal irritations ever *cause* chorea, they frequently do aggravate and occasionally precipitate it. Of all these sources of irritation, the commonest offenders are, the gastrointestinal tract, the nasal passages, and the eyes. But, any organ or function may be the culprit, or perhaps several of them conjointly. Consequently, a careful search should be made over the entire body, from head to foot, inside and out, for such foci of trouble, and wherever found they should be corrected or removed.

The attainment of the second object implies (1) the regulation of the food-intake, (2) the stimulation of metabolism, (3) the maintenance of free elimination, and (4) the supplying of lacking constructive elements.

The diet of the choreic should be just as generous as the patient's digestive capacity will allow, precisely as in tuberculosis. This does not, however, mean a reckless and indiscriminate stuffing of the child with anything and everything that is vaguely assumed to be nutritious, but, on the contrary, a careful selection of a suitable diet, as indicated by urinalysis and other means of investigation, and by a painstaking supervision of the various metabolic indexes. Only what the

child assimilates and uses is of any value to it; and, moreover, the feeding must be supplemented by the other remedial measures, to insure the patient benefiting by the diet.

Stimulation of hepatic metabolism is an important part of the second indication of the treatment. This function always is faulty. The urea output always is low. Regulation of the food will go a long way toward remedying the trouble; and, rigorous hygiene, fresh air, regular living, and rest will do much more. In the way of drugs, nothing is better than tiny doses of colchicine or, better yet, of boldine, given in association with one of the amara, such as quassoid.

The blood-making function is best assisted by some form of arsenic, of which an alkaline preparation (Barclay's solution) is preferable. This, of course, is the sheet-anchor of medicinal treatment in chorea; but I wish to state emphatically that arsenic alone never will cure chorea, and that most of the failures in this disease follow from a blind, fatuous faith in arsenic as the be-all and end-all of the treatment.

Elimination, like hepatic activity, largely is secured by attention to diet and hygiene; but occasionally it is well to clean out the intestinal tract with a few days' course of calomel and phenolphthalein followed by saline laxative. The drinking of citrous fluids and the eating of citrous and cooked fruits encourage renal elimination.

Finally, the system should be furnished, as far as practicable, with the constructive elements that it lacks or in which it is deficient. Of these, the two most important are lecithin and nuclein. The former can be given by mouth, in the form of neurolecithin tablets. The latter, to be of highest efficacy, should be given hypodermically.

The task of sedation has formerly been assigned altogether to the bromides. And, to be sure, the bromides do sedate, but at such a tremendous cost as to savor of the old Chinese practice of burning down the house to roast a pig. An ideal substitute for the bromides is solanine, the alkaloid-glucoside of solanum. This drug produces all the beneficial effects of the bromides, without any of their mischievous results. Solanine can be given, in doses of 30 mg. three times a day, for long periods of time, without causing ill effects, and under its administration the nervous system is sedated without blunting the mental faculties or producing any acne.

Of vastly more importance than any drug in this phase of the treatment is rest, both of body and mind. The child must be under firm but gentle control, and made to lie down, whether it goes to sleep or not, for several hours during the day; in severe cases, all the time. *Rest is the sine qua non of the successful management of chorea.*

Use of the Bacterins

There remains the other aspect of chorea, the infectious phase. I am convinced that much of the failure to cure these little patients is due to the ignoring of this factor. Practically all choreics, as I have shown, are the victims of mixed infectious invasions, especially of the endothelial tissues (the endocardium, synovial membranes, and so on).

It is impossible, of course, to make a detailed inventory of all the microorganisms concerned in this invasion. But one always can bank on the streptococci, the staphylococci, the pneumococci, and the colon-bacilli being the ring-leaders; and for this combination Van Cott combined bacterin is practically a specific. I, therefore, regard this, or some similar combined vaccine, as a most rationally indicated measure in chorea. And experience shows that under this vaccine treatment, associated with the other measures, choreic patients make a hundred percent better progress than without it.

The Relation of Our Public Schools To Juvenile Delinquents

By Harris Dana Newkirk, M. D., Minneapolis, Minnesota

Director, Research Department, Hennepin County Juvenile Court

EDITORIAL NOTE.—This is unquestionably the child's "day in court." Not only are we concentrating our attention upon the physical care and prophylaxis of the child, but municipal courts throughout the country are turning themselves into laboratories for the investigation of his mental and moral problems, with remarkable results. Some of these researches and their findings are interestingly described by Doctor Newkirk, who is himself director of one of these laboratories.

MUCH has been said recently about juvenile delinquency. Studies have been carried on with more or less thoroughness, all over this country, in juvenile courts and allied institutions, with a view to getting at causative factors. The purpose of all this study is, of course, to base remedial measures or, better yet, preventive work on the conclusions reached by such studies. Therefore, it becomes all-important that the work be accurate, thorough, and far-reaching enough to cover the field, so that, if properly carried out, delinquency among the youth of our country will actually decrease.

Healey sounded an important note when he emphasized the fact that we cannot generalize the problem. Children should be studied as individuals and each child treated according to its needs. Others have carried on important work from different angles. Physical defects have been studied as causes, heredity and environment have been given careful consideration, until today our knowledge about delinquency and its multitudinous causes has been reduced more nearly to a science than ever before.

Habitual Wrong-Doing Not Always Delinquency

There is one aspect, however, upon which too little emphasis has been placed, and upon which I wish to dwell. In all this work, we are too apt to place overmuch stress upon the fact that, when a child does an act that according to adult standards is legally wrong, we put all the blame upon the child and consider it delinquent. This may be (and perhaps often is) the case; nevertheless, many times this seeming delinquency is merely the normal expression of natural, but untrained, animal-life. Antisocial acts done by any healthy, active, untrained boy or girl should not be considered as delinquencies attaching to that child's nature, but, rather, one should seek for something back of the child that caused it to act so. And, as a rule, this cause is the failure of the parents or of some branch of society properly to teach this child right methods of conduct.

What child, I ask, will not lie, if allowed to develop the habit, or if improperly punished, and as a consequence take to lying as the easier course? What immature child will not steal, if ideals of honesty are not properly inculcated, both by example and teaching? What boy will not get into bad sex habits, if not in some way taught that such actions are against his own good? Such teaching is not, by any means, easy, and can not profitably be done in a routine manner in regard to all children; still, the fact remains that, unless such instruction is adequately given, delinquency will be the natural outcropping of the animal-instinct. Thus, in the case of many a child who has gone wrong and finally developed into a full-fledged criminal, the blame must be placed, not at the door of the child itself, but upon society, as a whole, whose business it is to lead the immature into proper paths during their formative period.

One could say much—and much has been said—about the duty of parents, for it is from them that, to a large extent, the ideals and fundamental instruction must come; however, in this brief paper we must pass over this as well as many other sources from which the child necessarily must look for assistance. One thing, though, I do desire to touch upon briefly, namely, the effect of our modern public-school system upon juvenile delinquency.

The Public School in Relation to Child-Delinquency

We are prone to boast of our presentday schools, their fine equipment, the high standard of scholarship required of the teaching staff, the variety of subjects taught, the vocational work, and all the multitude of latter-day variations from the old three-R type. Far be it from me to discourage progress in any direction, especially as regards our schools. But I cannot refrain from warning that in the midst of all this progress we must be exceedingly careful, indeed, not to lose sight of the elementary principles of a true

education. Sometimes it actually looks as though the curriculum were the main thing in the whole system of education. The school-boards labor over the "curriculum," the public discusses the "curriculum," until people begin to think that what a child is supposed to accomplish in school today is, in some way to get by this thing known as the curriculum by the time it has arrived at a certain age. The parents in our country take altogether too little interest in this intensely important matter and do too little thinking themselves. When the pupil brings home its record-card, with the notation that this son or this daughter has "passed," the father and mother take it for granted it has satisfactorily mastered the school-work up to that point.

While the proper completion of the regular curriculum, as such, is a desideratum, yet, unless the child early in its career masters other, far larger principles, it not only has failed, even though it may have "passed," but—and this is the kernel of the problem—this child may be developing at the hands of its instructors the beginnings of a delinquent's career. For, be it noted, such principles of right living as self-control, concentration, promptness, accuracy, and neatness are the real foundation for a successful career, no matter what one's vocation or position in life may be.

Of course, as every child grows up, it gathers and develops a certain amount of these qualities, either through teaching or through experience, or both; yet, how much more of a man or noble woman might he or she be, had these qualities been instilled into such a one at an early age! How much more value such individuals would be to themselves and society if they had acquired those useful traits early, so that they became a part of their very lives!

How Criminals Are Allowed to Evolve

When a child does a lesson in arithmetic and gets correct answers, but is careless and shiftless about the figures, and is told it has a perfect score, something is wrong. Where it is given a lesson to learn that should take ten minutes, but, by allowing its mind to wander, it finally absorbs enough in half an hour to make a fair showing, it has fallen far short in the larger lesson of mental training. The child who does this kind of work in school is sowing the seed for an early failure in life. Just at the time when it should be getting well grounded in proper mental habits, it really is doing just the opposite: it is developing its mind, not, however, in the right direction. Instead of getting nearer and nearer toward the goal of mastery, no matter what the task, such a child is drifting in the opposite direction, by being permitted to grow up in slip-shod, shiftless, and indifferent ways. The great pity of it is that many men who have been allowed to worse than waste their intellect in their immature years have later, when they were forced to stand on their own feet and compete with the world, realized the helplessness of their position; but too late, for the ground-work had been poorly laid.

Such a one very frequently evolves into one of our modern educated criminals. This man has good brains, but, through the lack of a keenness on the part of those having had charge of his youthful education, he has unconsciously drifted into wrong channels, only to wake up and find it impossible to extricate himself from his fate. He is the chap who failed to develop, at the proper age, the correct school-habits; who failed, not because he did not have the brains, but because he was permitted to fail by his instructors. In his school-work, this boy soon found it easier to get help from his fellow pupil, than to think his lesson through himself; and from this it was an easy step to cheating, in order to get a rating to pass. From this, again, it was one more short step to lying, for now he had to keep things straight at home, because his was a respectable family and failure was not in its vocabulary. He kept getting in deeper and deeper, because, getting help, he never understood his lessons and never could catch up. School-work became tiresome from that time on, for he had lost his enthusiasm, the enthusiasm that comes from achievement by complete mastery of one's task. This result came gradually and he was unconscious of it; and, yet, little he realized that, instead of spending the best years of his life at building a substantial foundation for life's bigger problems, so that he eventually could master them in an honest way, he had, literally, gotten an education in principles that almost inevitably would lead him exactly in the other direction. He had not learned his lessons, but, instead, had learned to lie and to cheat, and, once his conscience had been salved in these seemingly (to him) small things, it was merely a step to larger and more criminal acts.

The First Step Most Important

No doubt, there are other important factors entering into this boy's failure, and, yet,

there is nothing that encourages a boy to do the second right thing so much as a cleancut performance of act number one, while nothing leads him downward faster than will an undiscovered, unchecked, deliberate first wrong. The average boy delights in proper achievement and prefers it to that which is not honorable—other things being equal. When, however, in home and school he is allowed to drift into improper mental habits, he soon (much earlier than most people think) is forced to resort to wrong practices in order to meet the requirements of the curriculum, the teacher, and the family.

Neither teachers nor principals are perfect in their judgment, consequently, we cannot expect them, with all their numerous duties, always to follow the right course with every child; still, it is a sad fact that the failure of the teacher, in the lower grades especially, to individualize her pupils and their work and to insist upon more than mere meeting of the curriculum many times has been one of the important factors in a child's downfall in later life. The teacher perhaps allowed her pupil to take the easiest course, instead of the most thorough one. She failed to appreciate the fact that that boy—as were all the rest—was entrusted to her care for the inculcation of principles of far greater importance than is a mere passing of the mark; that in her, the teacher's room, if ever, the child must develop the germs of self-reliance, system, accuracy, honesty, and concentration of mind. She thought that her job was, to graduate the boy in arithmetic; but, as a sad matter of fact, she made him an adept in lying and cheating—not intentionally, surely not, but she did it just as surely.

In conclusion, let no one understand me as one desirous of undermining our standards of general education; what I do plead for, though, is a broader and more comprehensive system. Let there be fewer pupils for each teacher, and, if that is indicated, let us have better-paid, more experienced teachers; but, let us bear in mind that the state can ill afford deliberately to train its youth in criminal practices, by the sin of omission—which, in its insidiousness, is more harmful than is that of open commission.

When the day dawns that our schoolboards consider principles of living—early and well learned—of far more importance than the mere passing of marks in a varied curriculum, the state will be far richer, no matter what the cost; for then we shall be developing future citizens who are strongly grounded, not merely in clear thinking and strong power of concentration, but men and women whose intellectual and moral fiber has not been warped and torn from early youth until in the end, when the state expects a valuable asset, it, in place, finds itself burdened with another liability—a morally warped man who constitutes one of society's problems.

THE FURNACE

By WILLIAM ROSE BENET

ALL day for a wage
He shoveled rage
Into a furnace underground.
It waxed white-hot. It made a roaring sound
That sent its blast
Through all his being, 'till at last
This rage grew all his world. And still his
chains held fast.

So, from his throes,
At last he rose,
And, with his shovel, slew a man,—past care
Ran stumbling, sobbing, raving for the air.
In consequence of which they bound him in a
chair
And killed his body with electric volts.
The utter dolts!

—*In Century.*

On the Relation of Tuberculosis in Children to the Tuberculosis Problem

By H. J. Achard, M. D., Asheville, North Carolina

EDITORIAL NOTE.—"Begin with the child" has become the axiom of all modern movements for the physical and sociologic betterment of the race. And it holds good, not only in the application of whatever measures may be devised for race betterment, but also in the investigation of the problems presented. This is the "motif" of Doctor Achard's thoughtful article. He brings to the solution of the tuberculosis problem the data and observations pertaining to the course and diagnosis and results of treatment of the disease in the child. We believe our readers will agree that his viewpoint justifies itself by the importance of his conclusions.

As I remember it, the request of the editor was for a paper on tuberculosis in children; a "practical" paper, giving the different forms of children's tuberculosis, their diagnosis and treatment. While, in agreeing to write such a paper, I tacitly promised to abide by the "specifications," further consideration has convinced me that I should not render any particular service by embodying in a paper that which can be read in the newest textbooks on diseases of children; I am persuaded that it will be better, and probably more productive of benefit, to consider the entire problem from a broader standpoint, in view of the fact that within recent years it has loomed large in the eyes of investigators and of pediatric clinicians. Indeed, it appears as though a solution of the problem of children's tuberculosis would go far toward solving the problems of the tuberculosis-question at large.

Views Then and Now

Not many years ago, the teachings concerning tuberculosis as it affects children were almost entirely limited to the surgical forms of tuberculosis of the glandular structures and of bones and joints. Pulmonary tuberculosis, so we were told, occurred but rarely in children, except in an acute form; then a miliary dissemination speedily terminated in death. In the first two years of life, any tuberculous infection was surely followed by some fatal disease. Tuberculous meningitis also was known—and feared; for, among many thousands of cases mentioned in literature, only very few isolated instances of recovery were recorded. The affection of the glands was held to be owing to a quantitatively slight or to a slightly virulent infection, and the "scrofulous" children of today were believed to represent the consumptives of tomorrow. Bone- and joint-tuberculosis was the subject of a veritable *furor operativus* equalled only by that which fifteen or twenty years ago played such sad havoc with the genital organs of the women.

But, "we have changed all that." The researches of the last ten years have demonstrated that tuberculosis is exceedingly prevalent in childhood; that even nurslings are not inevitably doomed if they become infected during the first year of life; that pulmonary tuberculosis is almost as frequent among children as it is among adults; that a tuberculous process limited to the lymph-glands is proof of a congenital or acquired resistance, especially if there exists a tendency to fibrosis; that surgical tuberculosis can be favorably influenced, and even healed, without resorting to operation; and, above all, we have learned that tuberculosis, to quote a famous German pediatrist, is essentially a disease of children, in that the seed of adult tuberculosis, in the majority of cases, is planted during early childhood. The problem of tuberculosis, with its years of suffering, of inability to work, of all its attending evils, therefore hinges largely upon that of childhood tuberculosis; and the old homely saying, that "prevention is better than cure," which occupies such an important place in modern medicine, is nowhere as true as it is in this very instance.

Tuberculous Lesions in Persons Not Dead From Tuberculosis

With reference to the frequency of tuberculosis in children, it will be remembered that in 1903 a series of investigations was instituted in Zuerich, by Naegeli, in which the attempt was made to ascertain to what extent tuberculous lesions, either healed, latent or obsolete, could be found at the necropsy of persons who had *died of diseases other than tuberculosis.* According to the data thus collected, in Zuerich, Leipzig, Berlin, Christiania, and in various other places, tuberculous lesions were found in the bodies of persons who had died, respectively, at the age of puberty or some time later as ranging between 50 percent (in Berlin) and over 90 percent (in Zuerich). Far from being alarming, this unexpectedly great prevalence

was rather consoling, for we well know that less than one-seventh of all persons living die of some form of tuberculous disease. Holding the two facts together, we must conclude that the majority of individuals in civilized (so called!) countries possess a fair degree of resistance to the pathogenic action of the tubercle-bacillus.

When, in 1907, the local tuberculin tests were inaugurated with the cutaneous tuberculin test of von Pirquet, their value for researches similar to those just alluded to soon was recognized. It was found that, at least after the second year of life and probably even before then, the positive reaction of the cutaneous tuberculin test is not to be interpreted as showing the existence of an active tuberculous disease, but that a positive von Pirquet reaction denotes that the reacting organism at one time or another has been infected with tubercle-bacilli. Consequently, it became possible to determine in what ratio tuberculous infection prevails at various periods of life, in different localities, in different walks of life.

Without citing any particular researches, I may say that, as regards the hospitals of Vienna, among children up to 14 years of age, and mostly ill with nontuberculous acute disease, the frequency of tuberculization—that is, of infection—was found to rise rapidly from about 5 percent during the first year of life, to over 90 percent at the age of 14 years.

The material for these investigations was of a peculiarly unfavorable nature and, therefore, shows extremes. However, a tabulation of over 3000 cases of examination of clinically nontuberculous, and of a somewhat larger number of unselected children, culled from medical literature and representing both favorable and unfavorable material (K. v. Ruck and H. J. Achard, *Pediatrics*, Dec., 1913), shows that the frequency of reaction in the former class rises rapidly, from 1.18 percent in the first year of life, to 54.29 percent in the fourteenth year; and in the latter from 6.97 percent in the first year of life to 59.25 percent in the fourteenth year. The examination of 650 school children in a small town in Germany showed that the frequency of a positive reaction was markedly increased after the children had left the shelter and comparative isolation of the home and had been attending school for one year.

Relative Immunity Established in Early Infancy

These figures might be extended indefinitely, but that would not strengthen the force of the conclusion, which is unavoidable even from what I already have said, namely, that by far the greatest number of tuberculous infections occur in early childhood. This fact today is recognized by most investigators; and, while its extreme supporters assert it to be almost without exception, even conservative clinicians admit that it is true for at least 75 percent of all cases of tuberculosis in the adult.

This means that in three-fourths of all cases of tuberculosis in adults, the infection responsible for the disease took place during childhood, and, further, that their immunity was developed then, but was later broken down again through some predisposing cause. In not more than one-fourth of all the instances of adult tuberculosis is the infection a recent and "exogenic" one. This knowledge certainly should prove consolatory to those foolish persons who are afraid even to come near a tuberculous patient, for fear of being infected.

Why Not Every Tuberculous Child Dies in Infancy

This being true, the question arose as to why it is that not all these infected children die of tuberculosis. Even today some textbooks assert that infants in the first year of life are absolutely nonresistant to tuberculous infection, their mortality from tuberculosis being 100 percent; and that it still stands at 80 percent among infants in their second year.

Yet the tuberculin reaction elicited indubitably demonstrated that small children reacted to tuberculin, that is, that they were infected although not exhibiting any signs of tuberculous disease.

It is here that certain animal-experiments have afforded us a wealth of information, the value of which, for the benefit of mankind, especially children—and, indeed, for the benefit of our domestic animals themselves—once more have justified these experimentations with animals, provided they are conducted properly, against all the insensate opposition and vituperations of sentimental ill-informed antivivisectionists.

First of all, it was discovered that tubercle-bacilli may exist in the organs, especially in the lymph-glands, of children—even of infants—without causing any tuberculous lesions or, in fact, any disease. Yet, that these same tubercle-bacilli were both viable and virulent was proved by the fact that tissue thus infected, when inoculated into guinea-pigs, is capable of producing progressive tuberculosis.

This proved two things: first, it followed that tuberculous infection is not identical with, and not necessarily followed by, tuberculous disease, but that it may remain dormant or latent; and, secondly, it suggested (and this then was proved by detailed experiments, especially by Bartel, of Vienna) that the lymph-glands, or, rather, the lymphoid tissues, possess the power of inhibiting the growth and proliferation of tubercle-bacilli. Hence, the far greater amount of lymphoid tissue present in children, as compared with that in adults, constitutes a fortunate provision of nature, calculated to aid in protecting the youthful organism against the consequences of infection with the tubercle bacillus.

Acquired Immunity to Tuberculosis

But there is more.

It has been known for a long time that a single attack of smallpox, of scarlet-fever, of whooping-cough, *et al.*, if recovered from, protects against another attack, by establishing an immunity against the virus of such a disease. Concerning tuberculosis, it has been taught that no such immunity was conferred; indeed, it has been believed that actually the reverse is true, so that a first attack inevitably leads to progressive disease.

Nothing of the sort is true, as a matter of fact. In 1890, Koch showed that even a tuberculous guinea-pig possesses a certain degree of immunity against a second infection. Proceeding from this fact, it thereupon was definitely determined that a tuberculous infection, provided it is not too massive for the organism so infected, produces a certain degree of immunity, and, moreover, that this immunity is further increased by each subsequent infection that is successfully resisted. As a matter of fact, from the day the child leaves the shelter of the house, it, exactly like the adult, is exposed many times to infection with the tubercle-bacillus, which is inhaled with the ubiquitous dust. Luckily, these infections are quantitatively slight and can be resisted, with the result that a specific anti-tuberculosis immunity is acquired. However, if at any time the organism is weakened, as, for example, by teething, measles, scarlet-fever, whooping-cough, or by other circumstance, including unfavorable environment (crowded tenement-home), insufficient or improper food, excessive exertion; then the immunity is destroyed, the tubercle-bacilli proceed to multiply, and tuberculous disease finds establishment.

If anybody doubts that an antituberculous immunity does develop spontaneously, it is only necessary to compare the frequency of the infection (as shown by the positive von Pirquet reaction) with the morbidity and the mortality of tuberculosis. The first represents more than 90 percent of all living humans; the second between 20 and 30 percent (estimated); and the third about 11 percent. This means that about 70 percent of all human beings acquire a tuberculous infection, without, however, contracting the disease. And why is this? Because the individuals develop an active immunity against it, and this prevents the infection from actively developing into disease.

Immunity Transmitted By the Mother

Another thing is true.

An examination of the umbilical blood in over 130 newborn children developed the fact that whenever the mother had a history of tuberculosis, this blood contained anti-tuberculous immune-substances. In 6 infants whose mothers had been treated with Watery Extract of Tubercle-Bacilli, these immune-substances in their umbilical blood included considerable amounts of the bactericidal antibodies, and in 2 of them, in whom the examinations could be repeated, these antibodies still were present when the babies had attained the age of 2 years. This shows that tuberculous mothers who are overcoming their own disease transmit a degree of immunity to their offspring, which often is sufficient to protect the latter against slight early infections in their infancy. And this congenital immunity is readily increased by virtue of the physiological response of the organism to any slight infections, as well as by artificial immunization.

In this, nature offers us a hint of how to fight tuberculosis.

Merely to avoid infection will not do, however, because that is not possible; if it were possible, though, it would leave the organism highly susceptible to a chance exposure. In like manner, experience has shown that the vaccinated, that is, immunized organism, is safe from smallpox, while the unvaccinated organism yields to the infection.

Consequently, it is right enough to protect infants against known exposure to infection, yet, at the same time, they must be attended and guided in such a manner that they grow into healthy children and may be able to overcome the unavoidable first infection when it does come. The best way, to be sure, would be to vaccinate every child against tuber-

culosis as nowadays they are vaccinated against smallpox. But that is another story.

I do not wish to be understood as saying that tuberculosis is not dangerous to children. It is; very much so; besides, while we know now that even infants may recover, the disease in them is more often fatal. Infants, therefore, should be protected most carefully against all possible sources of infection. They should never be kissed on the mouth by anybody, nor be kissed at all by strangers; the preliminary tasting of bottle- and of spoon-food by the nursegirl should be forbidden; the infants' liberty of action as to crawling on the floor should be confined to a dustfree sheet spread on a rug or carpet. While infection through the milk does not offer very great dangers to older children, in nurslings this should be guarded against most scrupulously. Whenever possible, the milk supply for infants should be obtained from cows that do not react to tuberculin, that are healthy, and that, in addition, are kept and handled in a proper manner.

In older children, a policy of watchful waiting—with emphasis on the "watchful"—also is indicated.

Children of every age should be jealously guarded against all influences that interfere with their proper nutrition, as this is their best asset. A child that has a normal appetite for simple, nutritious food, that evacuates the bowels regularly once or twice daily, that sleeps well o'nights, and that steadily gains in weight may be looked upon as reasonably well protected against harmful consequences of tuberculous infection.

Growing children normally show a steady increase in weight, and the weight-record, therefore, affords a trustworthy index of their progress. If a child is under weight, if it fails to gain, has a poor appetite, lacks ambition, does not want to play, is easily tired—look out! It's dollars to doughnuts that the tubercle-bacillus has got in its work. Children, especially if not perfectly healthy, should be weighed every week and the weight recorded and charted; they should be carefully examined in the "altogether" at least once in six months, and the presence of enlarged glands, irregularities in chest sounds or of breathing, or other abnormal phenomena should be taken as danger-signals.

Prevention More Important Than All Else

The most important factor in childhood tuberculosis is that of prevention; not a prevention that starts in when the damage has been done, but action taken before harm is possible. Just as the education of a boy should, according to Oliver Wendell Holmes, begin a hundred years before he is born, so the treatment of tuberculosis should start even before infection has taken place.

Nowhere else is the work of the family physician so important as in the prevention and in the early recognition of tuberculosis; meaning tuberculous disease long before it becomes consumption. To be sure, in order to recognize that, it requires study and knowledge, and many physicians—but that, too, is another story.

The accepted treatment of tuberculous disease consists in providing good food, fresh air, and rest. These measures are excellent, if properly regulated; but, in spite of what some prominent tuberculosis-men maintain, more is needed, and the physician who limits his treatment of tuberculosis to this triad, and deprives his patients of whatever benefit suitable remedies, up to specific treatment, may offer, had better change his occupation. Abraham Jacobi, in his presidential address before the children's section of the Washington Tuberculosis Congress (1908), insisted upon the benefit obtainable from properly selected drugs. The virtually general experience of tuberculosis-physicians is highly in favor of specific antituberculosis treatment; and, to my mind, this latter measure is fully as important as food-air-rest, because it stimulates the production of immune-bodies. However, the specific treatment of tuberculosis in children requires a paper by itself.

I have attempted to show that the seed of tuberculosis in adults is, in the great majority of the victims, sown during their childhood. This fact evidently is of manifest importance for the tuberculosis-problem. It imposes the duty upon the general practitioner to watch all the children of his patrons carefully, constantly, and persistently. Let him teach the parents the reason. Let him show them that infection can not, as a rule, be prevented, but the disease can. The reason why the disease breaks out so often soon after puberty is to be found, in my opinion, in the additional physical strains incidental to puberty, to the beginning of a wage-earner's life, and to the greater liberty of action enjoyed by young people, as compared with school-children.

Hence, it is up to the family physician to influence the young people of his clientele against burning the candle at both ends, against the "sowing of wild oats" (which bring a rotten harvest, anyway), against being too "smart." Let him teach them to lead reasonable, sensible lives, with plenty

of good, honest work and a modicum of legitimate fun; but, together with lots of good, wholesome eats and lots of sleep.

In the tuberculosis-crusade which is being waged the world over, the family physician should do the most important work, because he has the chance to see the cases of tuberculous diseases in their actual incipiency. I wonder whether he realizes his opportunities and whether he is conscious of his responsibility. It is there; and the most important, the most far-reaching, the most promising part of his work lies with the children.

Bacterial Vaccines in Rubeola and Scarlatina

With Some Thoughts on Contagium

By James E. Stubbs, M. D., Chicago, Illinois

EDITORIAL NOTE.—No modern presentation of the case of the child in medicine would be adequate without a brief for vaccine therapy. Doctor Stubbs has chosen to present this brief in the form of a special pleading on behalf of rubeola and scarlatina, two diseases in which vaccine treatment is the subject of much controversy. Our own opinion is that he has "made his case." We trust his article will open the way to further discussion of the subject by our readers.

MY FIRST case of zymotic exanthem—scarlatina—was that of a lad of sixteen. The onset of the disease showed as a severe sore throat, the ailment for which I was called. At my second visit, I was satisfied that scarlatina was the disease to contend with. And right here let me say that I never saw a case of scarlatina where there was not a characteristic sore throat, the red coloration of which is peculiar to this disease. At my third visit, the patient had a high temperature and rapid pulse; there was just the slightest indication of the appearance of the eruption on the neck and in the dorsal region. I gave a hypodermic injection of a scarlatina stock vaccine.

The following forenoon, the fourth day, I found the patient covered from head to foot with a beautiful scarlet eruption; his throat felt much better, and pulse and temperature were nearly normal. On the fifth day, I was surprised to find the patient in normal condition and the color fading. On the sixth day, all coloration was gone, throat in normal condition, temperature and pulse correct, and all bodily functions normally performed. The patient considered himself well and wanted to go out. No albumin was found in the urine in three or four tests made.

No desquamation of skin took place. A good bath was given at the end of the twelfth day, and the head was thoroughly washed. This was done in order to comply with the requirements of the health-department and to meet the opinions of the people of the neighborhood.

The health-department was notified that the patient was entirely well and requested to send an inspector. A culture of the throat was made and no streptococcus was found. The quarantine was lifted, the "red card" removed, to the great satisfaction of the neighborhood, and the household members were permitted to walk the streets, carrying no disease-germs in their clothing.

Let me here state that no scarlatina-patient should be pronounced cured and allowed to mingle with unimmune individuals until a throat-culture shows perfect freedom from streptococcus.

Cases of Rubeola

My second case was one of rubeola in a child aged 7. I was called in the morning, and observed no signs of the disease, excepting that there was a hacking cough, some coryza, and a slight redness of the conjunctiva. The next day, I discovered a few red spots on the temples and neck—regular tell-tales—and then gave an injection, hypodermically, of a vaccine made of streptococci and staphylococci. The next day (third visit) I was greatly surprised to find my patient covered with the characteristic eruption of rubeola, but the distressing cough nearly gone and temperature and pulse getting down to nearly normal, and the patient feeling pretty well. No medicine was given, but a light diet and plenty of water to drink were prescribed.

Thirty-six hours later I gave another hypodermic injection of the vaccine—this was on the third day. The next morning, fourth day, the eruption had lost its firey-red color and was disappearing. By the end of the sixth day, the eruption had just about dis-

appeared. On the eighth day, the skin was of normal color. *No desquamation occurred.*

I certainly was much pleased with the results of the vaccine treatment in these two cases. The quarantine was lifted at the end of two weeks.

A few days after attending the foregoing case, I was called to see a child, aged 8, that had the earmarks of the oncoming of rubeola, a distressing hacking, irritating cough. I found a few characteristic red spots on the patient's forehead, temples, neck, suffused, red conjunctivas, and a slight discharge from the nose. This was at 9 o'clock in the morning. I gave a hypodermic injection of the vaccine. At 4 p. m., same say, the eruption was complete, covering the whole body, while the distressing cough had nearly stopped. This was the repor from the family.

On the second day, I was delighted to find my patient doing excellently and feeling fine. On the third day, the cough had entirely disappeared, temperature and pulse were normal, and the patient was complaining about the limited rations. On the fourth day, the eruption was fading, and the patient was feeling perfectly well; no cough, no fever, good appetite, all the eliminators doing their proper respective duties perfectly. No perceptible desquamation took place, which I attribute to the short duration of the moderate fever. The quarantine was lifted at the end of two weeks.

By this time I began to have great faith in bacterins for these acute eruptive diseases.

Success in Scarlatina

The next case (the fourth) occurred in the second patient of the list. I was called up, in the evening, by the father, who said that the child had a high fever, a high pulse, sore throat, headache, and some nausea. I had diagnosed scarlatina before seeing the patient. Accordingly, upon my arrival I administered, hypodermically, some of the vaccine, a large dose.

I was much pleased at the condition of my patient when calling next morning. She was improved in every respect: most of the pain in the throat was gone, though it looked very bad, nearly like raw flesh, and the eruption had started to make its appearance.

I predicted that by night eruption would be complete, and so it proved. No medicine was ordered, but plenty of water to drink. On the third day, I gave a sister an immunizing dose and sent her away. She had no attack, although she took care of her sick sister until the end of the third day. At this time the patient's whole body was the color of a boiled lobster, her temperature nearly normal, and appetite good. All eliminators were doing their work normally, excepting the skin; but this, too, became active at the end of forty-eight hours.

The sister went to relatives in another section of the city and no case of scarlatina followed in her wake. No virus of scarlatina was carried away in her clothing, and the injection of the vaccine destroyed the possibility or the probability of her harboring the germs. My patient went on to a rapid recovery and the quarantine was lifted on the eighteenth day of the disease.

The inspector made frequent calls, went into the room where he could look at the sick child, then went out to mingle with people in the streets and on the street-cars. I did the same, only I was in the sick-room longer and oftener.

The father, on the other hand, was forbidden to enter his home, for fear that he might carry the germs of the disease in his clothing. Now I ask, if *he* could carry the disease, then *why not* the doctor, the inspector, the nurses? I suppose that the inspector does his work, in order to see that the city's health-laws are complied with. If the theory is that the contagium is carried in the clothing, then the inspector and the physician become scatterers of the disease. Then, why quarantine the parents and other members of the household, but allow the inspector, the nurse, and the doctor to have free entrance and exit from the disease-laden apartment?

Oh, health-officers, be consistent! What a farce! Why do not doctors, inspectors, and nurses carry the germs of the disease in their clothing? Will someone of the allwise inform us? No one ever heard of physicians, nurses or officers of the health-department carrying the disease. Why not? Do the disease-germs die as soon as they get on the garments of these professionals and officials? How explain it? Why only relatives and friends spread this disease?

An Obstinate Case of Measles Yields

The next case proved to be an obstinate, retarded case of rubeola. On my third visit, I concluded to try the effect of a hypodermic of vaccine, so, gave an injection at about 11 o'clock in the forenoon. I was gratified upon getting, at 6 p. m., a message saying that the eruption was appearing. Next morning I found my patient well broken out with a characteristic eruption of rubeola. The only symptom of the coming measles was

a deep bronchial cough, which in this case was misleading. There was no coryza, no sneezing or discharge from the nose. On the morning of the third day, a good eruption showed, but I thought a mild injection would hasten convalescence, so, gave one. At noon of the fourth day, the eruption was growing fainter in color, and at the end of the sixth day no signs remained that there had been any trouble whatever. The patient was in perfectly normal condition. In the case of this child, I had used vaccines two years previously, for bronchitis and indicanuria, with good results. At present the child is in the best of health.

I have treated in this manner 9 or 10 cases of the acute eruptive diseases, and with uniformly good results, and now am a firm believer in the efficacy of bacterins in these diseases. No internal medicine has been needed, and a light diet, plenty of milk and water, and daily tepid bathing were the only other measures. However, a good nurse is of highest importance. I had no instance of albuminuria in any of my cases. One great advantage of the bacterin-treatment is, that there is no need of quarantine for longer than two weeks. The time to lift the embargo is, when all pathogenic bacteria of scarlatina or rubeola have disappeared from the throat. Have a culture made at the end of the fifteenth day. No "bugs," no quarantine.

How Infection Is Carried

The sooner members of the profession come to realize that the germs of these diseases are not carried in fomites and in the air, but in the air-passages of the living harborers, the better for all concerned. When a child has a sore throat, have it quarantined until a culture can be made from the secretions of the nose. If no germs of scarlatina or rubeola or pneumonia can be demonstrated, then let the child out. Pathogenic germs have neither legs nor wings, they can neither fly nor run, and are not found crawling over the body. Our great unwashed are no more liable to the contagious eruptive diseases than are those who get a bath three or four times each week. Tuberculosis is no respecter of person or conditions—the rich and the poor, all are attacked alike. Filth does not make disease. Pathogenic germs of diseases common to the genus homo do not breed in filth or decayed animal or vegetable matter; they seek a higher place for their habitat, the human; living being.

The poor little house-fly, which does so much to annoy us when we would be lazy and want to take a morning nap or our siesta, comes buzzing about our ears singing a sweet lullaby and sometimes scampers over our probosces, tickling us to such an extent that we want to say cuss-words or get up in our rage and swat the invader to death. Murder enters our hearts. I do not think it will teach children kindness to be constantly telling them to be little murderers, insecticiders. It makes them callous to the suffering of insect-life.

In the economy of nature, these insects were put here for some specific occupation, one of usefulness. There is a world of beautiful study in the body and the life of our little household-fly, with its iridescent wings, brilliant in the colors of the rainbow, and with its wonderful eyes with their hundred lenses in each optic. Why wage such a war against them? The accusation against them as being disease-carriers has never been proven.

I have digressed somewhat, but I think it a just sequence to the position I take in regard to the spreading of contagious diseases. If the profession take to the vaccine treatment of these diseases, they will save their patients much suffering and annoyance and, of economic importance, shorten the period of quarantine.

I have been in active practice in medicine fifty-three years, and observation has taught me much.

[We are so much in sympathy with much that Doctor Stubbs has to say that we regret we must disagree with him on some points, which, however, we consider very important. We firmly believe that the insect is one of the most common and most dangerous instruments for the transmission of disease. This belief does not rest upon mere unproven hypothesis; it has been *proven* as few things in medicine have been. We hardly see how any one can read the report of our government commission, headed by Professor Victor C. Vaughan, of Ann Arbor, relative to the prevalence of typhoid fever in our army during the Spanish-American war, and still doubt that flies have much, very much, to do with epidemics of this disease. The part that mosquitoes play in malaria and yellow fever, the louse in typhus, and the tick in mountain fever are too well known to require special comment.

Bacterins undoubtedly deserve a larger place in the therapy of the contagious diseases. The value of the scarlatina prophylactic (consisting of streptococci obtained from scarlet-fever cases) seems pretty well

established. Heretofore, this and similar bacterins have been used but little for the treatment of attacks of the disease, so Doctor Stubbs' paper is peculiarly welcome. Perhaps next time he will tell us just what doses he uses, and what combination of the streptococci and staphylococci he employs in rubeola. We presume the number of killed germs injected is much smaller than when the bacterin is used prophylactically.

In spite of the value of the bacterins, we are sure that none of our readers will neglect the remedies that have been found "tried and true" in these diseases. Usually there are clear indications for aconitine, shown by temperature elevations, and the characteristic rapid "running" pulse; for atropine, especially when the eruption is delayed or scanty; for digitalin and strychnine (or brucine) when heart action needs support; for elimination with calomel, podophyllin, or other purgatives—especially in scarlatina, where fecal absorption tends to the production of renal complications; and for calcium sulphide, which, as the old master, Burggraeve, used to say, is a "precious remedy" in all these acute contagious diseases, where there is a "septic" element. We should not know how to treat scarlet fever, rubeola or pertussis without calcium sulphide—nor will you, when you have learned of the remarkable benefit following its use.

We appreciate Doctor Stubbs' paper greatly. It comes warm from the ripened experience of one of our great Chicago clinicians—a man who has brought comfort to thousands of mothers in giving relief to tens of thousands of children. We who know him, respect and love him—and follow him when we can.—Ed.]

Scarlatina: Some Points in Its Diagnosis and Treatment

By H. K. Shumaker, M. D., Flat Rock, Ohio

Notes Based on a Study of Eighty-nine Cases Occurring in Three Epidemics

TYPICAL cases of scarlet-fever are very easily recognized; on the other hand, an atypical case, when other cases of the disease have not occurred in that region, it sometimes is impossible to diagnose. This is because rubella, or German measles, presents itself in several forms, one of which is so like that of a mild attack of scarlet-fever that one must await typical desquamation to occur before he can venture the positive diangosis of scarlatina. On one occasion, I found associated with several children sick with typical scarlet-fever a girl who had a rash like measles, and also red eyes and a cough. In the absence of the other patients, I should unhesitatingly have diagnosed this as measles. Yet, later, this child had the usual free desquamation following scarlet-fever.

A Scarlet "Rash" Not Always Scarlatina

Initial nausea and vomiting has rarely been absent in the cases of real scarlatina that I have observed, so that I hesitate to call a scarlet rash a case of scarlet-fever, unless there also is present some gastric disturbance. The same statement holds good for sore throat; for, a scarlet rash without a simultaneous angina rarely is scarlatina. A case in point: A child had a small abscess on its chin and there speedily developed a scarlet rash and a high fever. There was no sore throat, no vomiting, and there followed no desquamation. Also, in none of the other children of the family did a rash or fever develop. The eruption of this child evidently was of septic origin.

Another diagnostic point that has helped me in obscure cases is, that in scarlatina the rash appears within twenty-four hours of the beginning of the disease. It does not always appear on the chest and neck first, as many books teach; for, several times I have seen it break out first on the back and buttocks. It is well to remember, also, that the rash does not always appear as a velvety scarlet blush, but some skins show a rough deep-red efflorescence.

Still another point worth noting is the fact that in the early stages of the infection the cheeks are bright-red, while, by contrast, the lips are pale and there is seen a pale ring-like area encircling the mouth. I do not recall seeing the scarlet-fever eruption, at any stage of the attack, on the skin around the mouth.

Sometimes, on about the fifth or sixth day, there appears the socalled "strawberry"-tongue. This characteristic sign I never have seen in any disease other than scarlatina, and then by no means in every case. Of course, this sign is not available for early diagnosis; but, if appearing in any doubtful case, I should regard it as evidence sufficient to justify a change from isolation on suspicion to actual quarantining for scarlet-fever.

There is nothing characteristic in the sore throat of scarlatina, but neither have I seen any eruption in the mouth of any scarlet-fever patient simulating the Koplik spots of measles. In my series of patients treated, there was one who had membranous angina. This child had been exposed both to scarlet-fever and to diphtheria. There were present a scarlet rash, vomiting, and fever. Being in doubt as to the diagnosis (a laboratory-diagnosis not being available), I decided to treat the condition as diphtheria, so, administered antitoxin. The child recovered promptly; but desquamation occurred also, and on this latter sign I made a final diagnosis of scarlatina associated with membranous angina.

Inflammation of the cervical glands has occurred in a few of my cases, but not once did an abscess form. The enlarged glands have promptly subsided under iodized calcium, 1-3 grain given every two hours, and phytolacca applied locally. (Specific tincture of phytolacca and glycerin, equal parts: paint over the glands every three hours.)

Other Complications

Two-sided otitis media occurred in one instance. This resisted moist and dry treatment, but healed after one injection of an autogenous bacterin. The hearing, though, was permanently impaired.

Albuminuria was found frequently in these cases, but only once did acute nephritis follow. This boy had had scarlet-fever so mildly that his parents did not consult a physician, but he was seriously sick when the nephritis developed; the amount of urine voided during one period of twenty-four hours being reduced to three ounces. The treatment decided upon was, to give enemas of Fischer's solution, in pint-doses, at 110° F., introduced high up in the colon; however, our boy put up such a fight that this method could not be carried out. So he had to journey to recovery over the disagreeabls road of sweating and fasting, these measuree being supported by aconitine and echafolta internally.

In one epidemic, during which I treated 21 victims, I had 5 cases of scarlatinal arthritis. This complication was exceedingly painful, but yielded quickly to treatment with aspirin and, locally, gentle rubbing with methyl salicylate, after which the joints were snugly bandaged. The relief was very prompt.

With one exception—the nephritic boy—all these patients were promptly saturated with calcium sulphide, and were kept so until several days after the fever had subsided. High temperature was combated with aconitine, tepid sponging, and neutral sheet-packs. During the course of the fever, the food was limited to diluted fruit-juices.

Attempts at Prophylaxis

During these epidemics, a number of exposed children were given calcium sulphide as a prophylactic measure; others were given belladonna, after the homeopathic custom. Neither method, though, proved convincing. It is true, some of the children taking either one of these remedies did escape; but it is also a fact that a considerable percentage of children are naturally immune to scarlatina.

All my scarlatina-patients recovered, while, barring the cases of arthritis, the proportion of complications and sequels was much below the average. I believe that this happy result may be ascribed to the saturation with calcium sulphide; nevertheless, this may not be so, for we well know that in the various epidemics of scarlatina the attacks differ greatly in their intensity.

Parotitis and Its Treatment

By Clifford E. Henry, M. D., Minneapolis, Minnesota

THERE are several forms of inflammation of the parotid gland; likewise, various causes give rise to this condition.

Simple inflammation of the parotid gland may be caused by chilling of the face, one side being exposed to a draught. As a consequence, a few hours afterward the muscles on that side of the head will feel stiff and painful when contracted; there also will be some fulness just in front of the ear. I have known long-continued chewing to cause a swelling of the parotis on the side exercised. Children who do not get chewing-gum very often, may, when they do, keep the mass in the mouth all day and perhaps even all night. In consequence of this continuous mastication, they may, the next day, complain of a feeling of soreness in the region of the parotid gland.

Traumatic and Infectious Parotitis

Traumatic inflammation of a parotis may be the result of a blow, while dislocation or fracture of the condyloid process of the inferior maxilla may so injure the gland as to cause it to become quite swollen.

Traumatic inflammations of this gland are very prone to become suppurative. I had, early in my practice, a man who was struck on the side of the head with a monkey-wrench. There were no broken bones, of that I am sure. In a day or so, the gland began to swell and after a time fluctuation was easily distinguished. There was some discharge of pus along the duct, but the gland had to be opened from the outside and drained, as any other abscess.

I also have seen involvement of the parotid gland in abscess of impacted wisdom-teeth. In cases in which the tooth issues more from the ramus of the mandible than from the body and lies horizontal to the last molar, and the tooth becomes affected, it is very liable to create a widespread area of trouble.

In some cases of abscess of the sublingual or submaxillary glands, the infection will spread through Steno's duct into the corresponding parotis. The submaxillary salivary gland and lymph-nodes are very prone to involvement in peridental abscess of the inferior maxilla.

In typhoid fever, measles, varicella, and influenza, the parotid gland may become inflamed either during the attack or as a sequel. I had one case of typhoid fever in which the parotid glands became involved. The glands did not break down, but were large and caused considerable discomfort.

Mumps

Epidemic parotitis, or mumps, is the form of inflammation of the parotid gland with which all of us are most familiar. Its specific parasitic cause has not been determined, although several investigators have thought they had isolated the organism causing the disease.

While mumps is considered a disease of childhood, I have had come under care more adults than children having mumps. My youngest patient was a baby about six months old, the oldest was a man past eighty. There was something peculiar about the latter: namely, as he was about over his attack of mumps, an attack of appendicitis set in. I often have wondered whether this inflammation of the appendix may in any way have been induced by the same organism that caused the mumps.

Diagnosis of Parotitis

In making a diagnosis of parotitis (from whatever cause), care should be taken to make sure that it is the parotid gland that is inflamed and enlarged. There is a lymph-node situated just in front of the ear and another like group just below the ear and behind the angle of the lower jaw. The node in front of the ear drains the external auditory canal and face. If there is any doubt, one should have resort to an ear-speculum. A pustular type of acne could cause an enlargement of the lymph-node at this point. The glands at the angle drain the tonsillar area, and should cause no trouble in differentiation.

The Pathology of the Disease

What pathological changes take place in the gland in mumps and in simple inflammation from cold has not been determined. It is presumed to be nothing more than that found in any localized inflammation.

If suppuration takes place, it is caused by the infecting organism gaining entrance either through the duct or through the blood. There is destruction of the gland-tissue, and there may be some formation of heavy cicatricial tissue as a consequence.

If the attack of mumps has been severe, there may be albumin in the urine. I have had some cases of albuminuria in connection with mumps, but no permanent lesion ever seemed to remain. There may be considerable earache, owing to a sympathetic inflammation of the adjacent tissue and the external auditory canal.

When the gland becomes infected with a pyogenic germ, or even sometimes in a severe form of mumps, absorption of a toxic product takes place, which may result in arthritis, endocarditis or pericarditis.

Very recently I had occasion to treat a student for mumps. The young man was very anxious to continue in school, and, so, exposed himself to the weather. As a result, metastasis of the disease to the testicles took place, and he was delirious for three days. When he was able to go about again, he complained of rheumatic pains in his knees and shoulders.

Just why the testicles, ovaries, and Bartholin's glands should be the organs selected when a parotitic metastasis occurs, I do not know. But I do know that any victim of epidemic parotitis must earnestly be cautioned about exposing himself to drafts and chilling and particularly regarding the danger of getting wet feet.

The swelling of the testicles and of the ovaries may be very large, and sometimes it will persist for quite a while. It may result in a stony-like hardness.

When metastasis has taken place, meningitis may follow. In one of my cases (about ten years ago), the patient was the manager of a department store. He was taken sick just before the Christmas rush and would not stay home. He said it was a kid's disease and he could sit at his desk as well as at home. The dreaded metastasis occurred, the testicles became involved, then meningitis attacked him. For about one week I was unable to keep the fever-temperature below 104 degrees, being above 105° F. most of the time. The patient's head was drawn backward and he was unconscious. Constant ice-packs were kept on the head. His recovery was very slow, it being some six weeks, I think, before he was back at his desk again.

Mumps a Serious Disease

The public and the medical profession in general are too prone to pass judgment, saying, "Oh, it's only mumps," and if the patient is an adult will make sport of him for being "a kid."

The U. S. "Health Reports" show that children's diseases are dangerous—not that measles is dangerous, but bronchial pneumonia is; chicken-pox is not, but an acute nephritis may eventuate in a chronic nephritis. And so on. Mumps, when simply mumps, is not dangerous; in fact, I doubt whether there ever has been filed a death-certificate giving mumps as the immediate cause of death. For all that, every person having the disease should be cautioned not to catch cold. The young student whom I recently treated told me that he did not know mumps could "go down on him."

What to Do in Mumps

Doctor Abbott's slogan of "Clean out, clean up, and keep clean" is indicated here as much as anywhere. For this reason, I begin treatment in most cases with a course of calomel and a laxative saline. The calomel not only cleanses, but exerts a resolvent action.

If there is fever, I associate aconitine and atropine. When there is no fever, I use atropine alone; giving it, not for its physiological action so much as on the principle of homeopathy—dissolving, *for an adult*, six 1-250-grain granules in a glass of water, and of this giving one teaspoonful every hour. Many of the teachers of the regular school mention the two-fold action of belladonna, when given either in minute doses or in full physiologic doses. It is the *minute-dose-action* that is wanted in these cases of mumps.

Pilocarpine, because of its action upon glandular tissue, may abort an attack of epidemic parotitis if given early. I make it a rule always to give calcium sulphide to saturation. This drug has a decided influence upon the general system and, if there is a tendency to suppuration, it will retard its progress.

Tincture of phytolacca (or, preferably the concentration phytolaccoid) is another very great favorite of mine. In fact, I get my patients onto phytolacca as soon as the fever is down and I have stopped the aconitine. This drug seems to possess a peculiarly selective action upon glandular tissue and is indicated wherever there is swelling of glands. Rhus toxicodendron—or, what I generally use, rhusoid—frequently is indicated if the swelling is dark-red and looks erysipelatous. Hexamethylenamine (urotropin) I have used in some instances when the swelling looked dark-red and there were marked ear-symptoms. The use of this drug for this purpose was first called to my attention by an article

(the author's name of which I do not remember), which advised it in catarrhal otitis media in which the mastoid was threatened. That author made the statement that free formaldehyde is liberated from all mucous surfaces when this drug is given. It seems to me that this contention is correct.

Pulsatilla (or anemonin) is useful if metastasis from the ovaries to the breasts has occurred. If there is much salivation (but this is rare), the homeopathic tablet of mercurius vivus 3× sometimes is prescribed.

As a local application, I have found an ointment of ichthyol in lanolin very good. If the patient objects to the odor, a drop or so of oil of rose will mask it very well. If the swelling endures, I have found inunctions with iodine in oil the best remedy.

Complications of parotitis are to be treated according to the indications. Arthritis calls for the salicylates or, if one prefers, rhus toxicodendron; endocarditis and pericarditis demand rest in bed and the ice-bag.

For the swollen testicles, I have about given up the strapping. Instead, I paint on a 5- or 10-percent solution of guaiacol, applying it all over the swollen area once or twice each day, the patient meantime wearing a suspensory bag. If the gland does suppurate and break down, it must be treated the same as any other abscess. One must make sure, however, that there actually is pus.

Anyone once having had experience with treating a salivary fistula will fight very, very shy of ever having to treat another. It has been my misfortune to have had two such cases. One of them resulted from an injury to the salivary gland, and one from a knife-cut severing the duct. These fistulas seem to resist any method taken to close them, and are very prone to cause development of a secondary infection.

A Few Facts About Measles

By F. V. Dotterweich, M. D., Ashland, Ohio

A CONTAGIOUS eruptive fever, with coryza and catarrhal symptoms. Incubation about two weeks. Begins with fever, chills, conjunctivitis, severe bronchitis, causing cough and frontal headache. The eruption appears on the fourth day, on the forehead, cheeks, and back of neck, spreading thence over the body. It consists of small dark-pink macules in crescentic groups, which frequently become confluent. After two or three days, the eruption begins to fade and is followed in one or two weeks by desquamation. The symptoms increase with the eruption and decrease with the disappearance of it, convalescence beginning in the second week.

The disease is extremely contagious, and it affects chiefly the young. One attack usually confers immunity. Measles is prone to exhibit complications, the chief of which are, pneumonia, bronchitis, phthisis, and otitis media.

How Is It Conveyed?

A. F. King suggests that the microbe of measles may be conveyed by mice. In 1862, J. H. Salisbury obtained from wheat-straw spores of fungi, which, when introduced into the body, produce a disease apparently identical with measles and conferring immunity upon those who had been so treated. King believes there is a connection between the presence of mouse-plagues and epidemics of measles.

G. Forssner thinks that a general enlargement of the lymphatic glands may prove a new point in the early diagnosis of measles. This would be difficult of verification in general practice, unless during its epidemic form, when one may see numbers of cases for study and comparison.

Hecker presents a report of the blood changes in the early stages of measles which he believes may be valuable in prognosticating the attack. He has found that several days before the Koplik spots appear the blood begins to show a distinct reduction of the total number of leukocytes, an absolute leukopenia, occasionally varied by a transient leukocytosis, marked rapid changes occurring from day to day in the leukocyte count. Especially constant is the appearance of a reduction of the lymphocytes from three to five days before the Koplik spots show. The lymphopenia is absolute, being due to an actual reduction of the lymphocytes, and not to a leukocytosis. This premonitory leukopenia and lymphopenia, this author believes, may prove helpful in foretelling measles and in enabling early and adequate quarantine precaution. Biehler, after examining 947 patients for Koplik spots, empha-

sizes the diagnostic importance of this sign, in that they permit recognition of measles before any other signs are apparent. In 864 cases, they were found the day before the eruption, in 40 cases, two days before, and in 1 case, 10 days before eruption.

Eucalyptus Oil Useful

A. Milne has, for a number of years, advocated the use of eucalyptus-oil as a means of preventing the spread of scarlet-fever. His method of procedure is this: Without waiting for a definite confirmation of the diagnosis, he swabs the tonsils and the pharynx, as far up and down as possible, with a 10-percent carbolic-acid oil, repeating every two hours for the first twenty-four hours. In addition, the patient is gently rubbed all over with pure eucalyptus-oil, from the crown to the soles. This is repeated night and morning for four days, then once a day for six days. He now recommends this treatment for measles.

When convenient, put a receptacle containing water on the stove or radiator, into which every two or three hours drop 30 drops (more or less) of oil of eucalyptus, and the steam and heat will disseminate the fumes throughout. Insure plenty of ventilation, fresh air, and sunshine. Spray or atomize the nose, mouth, and throat every three or four hours with some alkaline antiseptic, such as borothyme. Bathe the body every two, three or four hours with epsom-salt solution. This solution will assist in a large measure in hastening exfoliation; and this, the most dangerous condition for spreading the disease, is in a large measure prevented. Then give the emunctories full sway by first carrying out the cleanout, cleanup and keep clean plan.

Calcium Sulphide

Calcium sulphide, for its action in blood dyscrasia, has often given me very satisfactory results. Where cough and pain are present, they are met with calcium sulphide compound. For combating the fever and infection, I rely on the antizymotic pill. The defervescent granule will reduce fever in almost every case.

I have used echinacia and baptisia with indifferent success, probably because of my greater reliance and success with other remedies. Triple sulphocarbolates until there is practically no odor of the stool seems to lend greatest assistance in overcoming the inroads of most infections located in the bowels.

Complications being varied, each must be met as it appears. For diet, I prefer fresh fruit-juices, when tolerated; if not these, then I give broths, mainly, for the first few days, but get to a regular diet as soon as possible.

WAITING

By John Burroughs

Serene, I fold my hands and wait,
  Nor care for wind, or tide, or sea;
I rave no more 'gainſt time or fate,
  For lo! my own shall come to me.

I ſtay my haſte, and make delays;
  For what avails this eager pace?
I ſtand amid th' eternal ways,
  And what is mine shall know my face.

Asleep, awake, by night or day,
  The friends I seek are seeking me;
No wind can drive my bark aſtray,
  Or change the tide of deſtiny.

The ſtars come nightly to the sky,
  The tidal wave unto the sea;
Nor time, nor space, nor deep, nor high,
  Can keep my own away from me.

Therapeutic Suggestions in Children's Diseases

By Finley Ellingwood, M. D., Evanston, Illinois

THE jewel of all the gems of knowledge essential to the practicing physician in the treatment of the diseases of childhood is, *simplicity*. A rational knowledge, a plain comprehension of the sensitive character of the nervous system so readily unbalanced, a consideration of the fact that the nervous force and vital power in a child possess active restorative power—the ability to readjust the functions of the different organs in the body to a much greater extent than in adults—all these faculties combined enable us to handle these cases with success.

In treating diseases of children, my experience began long before alkaloids were in common use. Consequently, the fluid medicines have been my recourse. There are a large number of the alkaloids that, by the method of their preparation adopted by The Abbott Laboratories, which prepares them in smaller dosage, can be easily adjusted to the diseases of childhood, and even if a smaller dose than that in the granule be needed, it may be prepared by dissolving the granule in a definite quantity of water. To illustrate: If I desire to administer 1-1000 of a grain of atropine, but the granule contains 1-100 of a grain, I dissolve one of these in ten teaspoonfuls of water. Each teaspoonful should thus give me 1-1000 of a grain. This course can be adopted with granules of any strength. I have invariably found it wise to give the very smallest possible dose from which medicinal action could be secured.

Digestive Troubles of Children

With healthy children, the first disturbance is usually one of digestion. Otherwise, fermentation occurs readily in the stomach, an unbalance of the gastric fluids resulting in an excess of the acid principles. This simple consideration should be constantly in the mind of the prescriber in the treatment of acute conditions. One can quickly determine whether the vomitus is acid; whether there is a broad tongue covered with a coat, white, slightly thicker at the base. This demands a simple neutralizing agent, and of these we have many. It is common treatment to prescribe a cathartic. This is nearly always unnecessary with children, but a mild saline laxative is often very useful. A preparation known as neutralizing cordial—a compound syrup of rhubarb and potassium—is very simple in its adjustment to these conditions, after the saline laxative has been given.

Accompanying the fermentation, *febrile action* takes place. I believe this is the commonest phenomenon among disease-indications occurring in childhood. I have proven a thousand times to my own satisfaction that there is no greater error advanced by the profession than the one which declares that an elevation of temperature is an essential process, and that there is no need of paying any attention to a fever. "Wait," the scientifically learned practitioner says, "until enough indications appear to permit prescribing for a total disease by its name. If we wait long enough, we shall have remittent fever or perhaps typhoid fever or an acute local inflammation of a violent form in some important organ, which develops from that fever, and then the prescriber can prescribe for that disease the remedies that are named in the books as having been subsequently used for that purpose."

Can there be a more erroneous course than this? I am confident that this has led to more fatal endings than any other one simple mistake.

As to Combating Fevers and Vomiting

For thirty-five years, I have laid it down as an invariable rule never to permit any elevation of the temperature to continue without some treatment being instituted. It is a simple thing to decide whether aconite is indicated—when there is chilliness, sharp quick pulse, dry hot skin. Often 10 drops of a good U. S. P. tincture in 4 ounces of water, giving a teaspoonful every half hour or hour, will abate the fever, dissipate all evidences of disease, and bring about a normal condition of health inside of twelve hours. Aconitine in sufficiently small doses can be adjusted for the same purpose. This at once causes the developing processes of the inflammation to abate, and there is no development. It makes no difference whether the condition will be one of general fever or a local inflammation; always, normal conditions are induced. If, with the fever, the patient complains a little of the throat and the tonsils are slightly swollen or the throat is red but without exudate, add 10 drops of phytolacca to the

mixture, and continue as before with a compress on the throat, using equal parts of alcohol and water. All theories concerning infections to the contrary, this will abate numerous cases of tonsillitis, pharyngitis, and other simple throat difficulties.

If the conditions occur as mentioned above and are not readily abated by the simple agents used for the fever, the 1-1000 of a grain of atropine should be given together with aconite and phytolacca. The atropine—or, belladonna, which I have been using—so directly influences the local stasis that is essential to the development of primary inflammation, that it is often of material benefit in aborting the inflammatory conditions. This I have found true with throat inflammations of all kinds, as also with inflammation of the lungs or of any of the intestinal organs. I found this combination also to abort the infectious epidemic diseases, especially scarlet-fever and measles. I am confident that, if smaller doses of this combination be given to patients who have been exposed to scarlet-fever, measles, or even diphtheria, even though the disease be not fully warded off (as, however, it has been in some of my cases), it will be rendered so mild and devoid of so many of the objectionable features that the result is well worth the physician's effort. I am confident that this combination, given through the course of whooping-cough, ameliorates all of the latter's factors.

An unpleasant complicating feature at the onset of nearly all acute difficulties of children is, nausea and vomiting. This soon becomes a troublesome and ultimately often a serious factor. The combination I use first, and have been using for many years in about the same form for all of these cases, is a mixture of equal parts of bismuth subnitrate, ingluvin, and sodium bicarbonate. One-half dram of this powder is put into a glass with 2 ounces of water. I have the nurse stir this thoroughly and administer to the patient a teaspoonful of it every ten or fifteen minutes; usually suspending other medicine until the vomiting is controlled.

The vomiting checked, I then endeavor to get rid of the cause of the vomiting as quickly as possible. It is surprising how many cases of vomiting of whatever cause will yield to these very simple measures if persisted in. In those diseases in which there are serious causes to blame for the vomiting, such as intestinal obstruction or disease of the brain, these must be discovered quickly and treated without regard to the symptoms. In administering the above, no attention should be paid to the fact that one or two of the first doses will be ejected. The medicine should be given regularly, just the same. In severe cases, a mild sinapism may be placed over the stomach.

Febrile Infections of the Throat and Chest

If aconitine and atropine, in sufficiently small doses, be given throughout the course of *pneumonia*, *bronchitis*, and *pleurisy*, with whatever treatment the physician thinks best to give, he will find the conditions modified, the violence of the phenomena ameliorated, and the course of the disease greatly abridged. However, the dose must be very small and frequently repeated.

These two suggestions are also of much value in *croup*, especially for the inflammatory symptoms. For the hoarseness, cough, and threatened bronchial irritation of this condition, the combination of calcium and iodine called calcidin, or iodized calcium, has now come into such general use that no physician who ever has depended upon it would think of getting along without this valuable drug. At the same time, there are cases, in which there develop specific infections early, that are well treated by the addition of jaborandi or its alkaloid in minute dose, together with aconite and phytolacca. With these remedies, while the germs may not be so quickly destroyed unless echinacea be given with them, it is surprising how quickly the difficulty will abate.

Jaborandi opens all the secretory functions, thus promoting rapid elimination of the toxins. At the same time it immediately destroys the relationship between the exudate and the membrane to which it is attaching itself, and ultimately loosens it and permits its being readily thrown off. I learned the use of jaborandi (pilocarpine) very early in my practice. I at one time passed through a severe epidemic of diphtheria, in which within a few days 125 patients succumbed. This was before the days of serum, antitoxin, and the probably equally efficient vegetable antitoxin, lobelia. I there learned to combine the oils of eucalyptus and turpentine in an atomizer, vaporizing this mixture with steam. The result of the persistent and thorough use of this inhalant was marvelous in cleaning out the postnasal and laryngeal exudate and in relieving the distressed breathing. I have used it, in the many intervening years, in many cases, and, with the remedies above named and more recently the hypodermic use of lobelia, have obtained excellent results.

Lobelia Hypodermically for Diphtheria and Pneumonia

The hypodermic use of lobelia came about in a case of diphtheria, when the patient was dying after antitoxin and every available measure had been used. The promptness with which the vital forces of the patient recuperated—regained their ascendency—and the distressing symptoms disappeared were so marvelous that the agent was persisted in; and it has since then been used in probably thousands of cases. It is now being used by men who previously had depended upon the serum-antitoxin alone. Many use it in conjunction with the serum-antitoxin. All who have tried lobelia now agree that it has a massive force against all the factors present in a severe case of diphtheria.

In the first place, lobelia antagonizes directly the influence of the infection and destroys the germs. This is all that is expected of the serum-antitoxin. It, further, puts the patient at once into a greatly improved physical condition, single doses accomplishing wonderful results. It improves the condition of the blood, encourages every excretory function, stimulates the nervous system, antagonizes the tendency to diphtheritic paralysis or, if this has occurred, contributes materially in restoring the normal nerve function in the paralyzed parts. Another important influence of this remarkable remedy is, that in cases of *anaphylaxis*, in which those who depend upon the serum-antitoxin are without recourse, this agent exercises all its primary influence. There are already scores of cases reported, in which it was depended upon alone, when the patient was at death's door, with almost miraculous restoration of the normal functions.

I am making these apparently exaggerated statements on the basis of reports I have been receiving for the last six years from the thousands of physicians throughout the United States who have been testing this remedy. They are not based upon my own experiences to any large part, but I have been forced to have confidence in the remedy, from the experiences of others.

One of the common conditions of childhood that baffles many physicians and, yet, proves amenable to simple measures is *pneumonia* in all its forms. This also applies to other chest disorders. To one who has employed such remedies as ipecac, aconite, bryonia, belladonna, jaborandi, cactus, and hypodermic lobelia, all of which can be used in the concentrations carefully and properly adjusted, fear or dread at the presence of this disorder disappears and confidence takes their place.

I would probably advise aconite for the first febrile manifestations, continued as long as the dry skin and a sharp, small, hard, quick pulse is present; bryonia for the short, quick, hacking cough, persistent and irritating, with quick, shooting pains in the chest and which are aggravated by motion or by handling the patient, as is apparent in some small infants; belladonna for the local primary congestion, especially if marked by cool skin, cool extremities, dilated pupils, and some general dulness; jaborandi with aconite for the dry skin or for the lack of bronchial secretion. Jaborandi must be given also when the secretions are generally deficient, but it is not to be continued after a stage of apparent feebleness occurs. Atropine is a better remedy at that stage.

While cactus is not considered an actual sedative in fever, it exercises a mild controlling influence over the temperature in pneumonia or broncho-pneumonia, and, if the prescriber fears heart failure, he has a most reliable remedy, indeed, in this alone. It is not always necessary to use strychnine with it, as, from my own experience, strychnine tends to antagonize the special fever sedatives.

In the later stages of the severe forms of pneumonia, we are having constant reports of the snatching of the little ones from the hands of death at the last moment, after everything else has failed, by the hypodermic injection of from 10 to 30 drops of hypodermic lobelia. These reports from all corners of the United States are so similar, so enthusiastic, and are so numerous that I am more than convinced that in this the profession has a marvelous agent, one which before a great while will undoubtedly come into general use for this purpose.

The Nervous Disorders of Children

An important remedy in the nervous disorders of children is gelsemium. From reports I get about its concentration gelsemoid, I believe this remedy exercises much the same influence as do the fluid preparations. The indications for this remedy are: nervous twitchings, when the temperature is rising, when the skin is hot, when the face is suffused with a bright flush, the eyes are bright and restless, and the pupils are contracted. It makes no difference what acute inflammatory diseases will follow these preliminary manifestations, this remedy is the one to prevent further development; or, if the child with

any severe disorder presents this syndrome, this remedy can be introduced with others not incompatible, with immediate results.

Gelsemium is especially effective also for *urinary irritation* in childhood, whether that induced by disorder of the kidneys or that depending upon local irritation. Painful urination of sudden occurrence is quickly met by this remedy.

In the treatment of *rheumatic conditions* in childhood, gelsemium has an excellent place. Whatever other remedies be given for their influence upon a possible lithemic condition, macrotys combined with gelsemium or bryonia in acute cases makes as good a combination as any that could be suggested. These remedies seem to have a peculiar influence over the nervous distribution, influencing the excretion of irritating products, and promoting a normal balance of nerve function.

I believe they go a long way toward promoting a normal hormone balance. I am not one who believes that hormones must be given, properly selected, to overcome every disturbance of the proper balance that must be sustained between the action of the endocrinic glands. I am confident that the vegetable remedies or their alkaloids will yet be adjusted in an exceedingly satisfactory manner, in harmony with the functional action of these subtle and not yet fully understood organs.

As nervous phenomena develop and *convulsions* threaten, gelsemium is an excellent remedy if given in sufficient dosage. The smaller dose may be repeated every five or ten minutes until the effect is secured, or one or two sufficiently large doses may be demanded. We probably have no better remedy for cerebrospinal meningitis, in its convulsive phenomena, than this agent. It should be given with that consideration in mind. At the same time, calcium sulphide, echinacea or other active antitoxic agents should be administered with it, in order to antidote the causative features of the disease. This disease is now yielding readily to hypodermics of lobelia and echinacea, and future study promises to prove the value of this course.

Cardiac Troubles and a Peculiar Syndrome

Before closing this paper, two or three isolated conditions occur to me that I want to mention. One is, the frequency of heart complications in childhood. The inexperienced physician, judging these by parallel conditions in the adult, is very apt to give an unfavorable prognosis. I am convinced that these are not necessarily serious. They yield to the simple vegetable remedies very quickly. If a proper balance in other conditions be sustained and the child be kept quiet, it is surprising how many of these heart disorders will disappear. The use of cactus and macrotys—with strychnine in very small doses if there be feebleness—contributes very largely, with proper dieting, and care of the digestion, to the restoration of these cases.

The other isolated condition to which I wish to refer, and which has baffled the skill of many physicians, is one that occurs in malarial neighborhoods. I have had patients brought to me who had been taken almost the length of the United States, consulting specialist after specialist, submitted to surgery, and finally were looked upon as incurable. The patient's temperature goes up 1 or 2 degrees; he becomes peevish and restless, sleeps poorly, appetite disappears. Occasionally there is some emaciation, but not always. The skin becomes yellow. The conjunctivæ are discolored. The tongue is broad and thick and has a pasty yellowish coat. Fretfulness increases. The indication that points to this condition directly, and differentiates it from the tuberculous, or other serious conditions which the physician is likely to class it with, is, that the bowel movements are scanty, very light-colored, often clay-colored, and float on water.

I have known this syndrome to persist for months under all kind of treatments. A little pressure over the region of the liver shows tenderness. The persistent, but slight, febrile phenomenon points to aconite as the first remedy. The somewhat enlarged condition of the liver and tenderness point to belladonna and bryonia. The slightly jaundiced condition of the skin and clay-colored feces point directly to the necessity of some liver-remedy. I have not found calomel of any particular benefit in this condition. I depend upon small doses of chionanthus and sodium phosphate in doses of 10 or 20 grains every three hours. The above remedies, with a little strychnine or nux vomica after the fever abates, or, in very small children, with inunctions of quinine bisulphate twice a day, will quickly improve this condition and restore to the child the glow of health.

The Unfinished Baby

By Ralph St. J. Perry, M. D., Minneapolis, Minnesota

NOBODY knows better than the physician that nature occasionally "slips a cog" in its workings, and especially so in the matter of reproducing the human species. These slips may be due to "heredity," or to causes more or less under human control. but more often they happen in cases where there is no apparent reason, in generant individuals who are in perfect health, physically and mentally, and who are functionating normally. So far as the mother knows, she has lived a perfectly normal life during her pregnancy, felt strong and hearty, has done her housework as usual, and positively neither psychic shock, physical injury or "maternal impression" are factors. These lapses of nature are designated defects of development, and a few of them, so far as they are involved in cosmetic work, I will discuss briefly under the caption of "The Unfinished Baby."

Harelip and Cleft Palate

The most conspicuous of these congenital defects is harelip, and it ranges in degree from a small, slightly disfiguring fissure to the horrible complete double form. In operating for these conditions, an effort should be made to utilize as much as possible of the tissues at command and to sacrifice only such as it is absolutely necessary to do. Usually, in examining these cases, there will be found upon one side or the other a thickening of the lip, due to the massing together of the muscle-fibers that by nature were intended to bridge the gap. By making your incisions correctly and patterning your "patchwork" according to the material at hand, these muscle-fibers usually can be utilized and so placed as completely to restore the symmetry of the lip and the function of the orbicularis oris.

In many cases of harelip-operation, it is considered advisable to overcorrect slightly, by forming a small rounding projection of the vermillion at the point of union, in order to compensate for the cicatricial contraction which is almost certain to develop in the course of time. Should this little overcorrection later on prove to be unnecessary or undesirable, it can be removed at any time. Harelip-operations may be made at any stage of life, but the earlier they are performed, the better the cosmetic result in after-years, and the better the effect upon the general health, physical and mental, of the growing child. At the age of one week is not too young, and I have operated upon one patient more than fifty years of age.

Cleft palate is a condition which should be operated upon as soon as may be possible after brith; for, the earlier this is done, the better the chances for a good result. Prior to the sixth month, the Brophy operation should be chosen. After, however, the maxillæ have become well ossified and the teeth have erupted, resort can be had to orthodontia-appliances for drawing the two halves of the palate into as close approximation as is possible, after which the minimized cleft can be closed by whichever one of the plastic procedures may seem best suited under the circumstances. In any and all cases, manual compression of the upper maxillæ, pressing both sides simultaneously toward the median line and gently and firmly pinching for a few minutes several times daily will materially aid in narrowing the defect and make it easier to close the cleft by operation.

In the Brophy operation, lead plates are fitted to each superior maxilla, between the cheek and gums, and fastened in place by means of silver wires passing, from one plate to the other, through the maxillæ and over and across the upper or nasal surface of the palate. These wires are twisted together, thereby drawing the plates together and forcing the two halves of the cleft palate together. The edges of the cleft are freshened and sutured, and held in apposition until firm union has taken place. The lead plates diffuse the pressure over the entire surface of the parts, and both bone and alveolar process are operated upon; the softness of the lead prevents injury to the parts, while danger from lead-poisoning is *nil*.

Where cleft palate is associated with harelip, as happens quite often, the palate should be attended to first, the lip being corrected at a second operation—a sequence of procedure that makes the operative work easier and also seems to insure better results in the palate, while not in the least prejudicial to the lip treatment.

Oral clefts should be treated on the same lines as simple harelip, an effort being made to restore the anatomical relations of the muscles as much as possible. Bronchial cysts and fistulas are encountered occa-

sionally, and may be treated by cauterizing, packing with gauze or may be excised. Usually, however, treatment other than prophylactic cleanliness is impracticable.

Congenital Defects of Ears, Eyes, and Nose

Congenital defects in the development of the ears are of frequent occurrence, but, as a rule, they are easily remedied by simple operative procedures. Complete absence of the auricle calls for a rather severe plastic operation, one which should not be undertaken during the earlier months of the baby's growth. Smaller defects that do not compromise the auditory sense may be deferred until the child is two or three years old.

Congenital defects about the eyes should be attended to at as early a period as possible, because of the effect such defects may have upon the vision. Defects in or about the nose may be corrected after the sixth month, unless they are of such a nature as seriously to compromise the respiratory function, in which case immediate intervention is imperative. For ordinary abnormal conditions, operative treatment may be postponed until such time as the nose will be required as a necessary adjunct to speech and selection of the food.

Spina Bifida

Spina bifida is a condition which has, heretofore, been looked upon as almost hopeless, but of recent years improved surgical technic and methods have enabled us to bring about satisfactory results in many cases, where, only a few years ago, these subjects would have been allowed to pass along to an inevitable death, without attempting surgical intervention. A better knowledge of the pathological conditions existing in these cases and the application of skin and bone grafts and other plastic methods have so improved the chances for benefit and cure that there is no excuse today for permitting a child afflicted with spina bifida to die from ulceration and infection without our making at least some attempt to prevent such a catastrophy.

Abdominal, Anal, and Rectal Defects

Of congenital defects of the abdominal wall there are many. *Hernia* is the commonest among these, and it responds very readily to treatment. In babies, there seldom is a demand for the radical operation; for, in nearly all inguinal hernias, the wearing of a wool-yarn truss and the enforced head-low position for a few weeks will effect a cure. In the umbilical form, an elastic truss, with an air-pad, should be applied and the baby be kept upon its back as much as possible.

Hydrocele, which, in children, frequently is associated with inguinal hernia, best is treated by means of pressure, so applied as gently to force the fluid contents back into the abdomen, closing the canal and thus preventing further escape of fluids from the abdomen into the sac; the obliteration of the sac coming about by adhesion of its walls. This failing, the sac may be opened and the interior painted with carbolic acid or tincture of iodine.

Anal and *rectal* imperfections, especially the nonperforative forms, are most serious and demand immediate surgical intervention, to save the baby's life. Every person officiating at a childbirth should examine the baby, to see that the anus and urethra are patent, and later should satisfy himself that the child's bowels have moved, and that it has urinated during the first twenty-four hours. If not, then why not? Hypospadiasis and epispadiasis are *urethral defects* that are easily remedied by means of plastic operations, but which, while they may disturb the minds of the parents, are not conditions requiring immediate action. *Exstrophy* of the bladder is a condition best treated by palliative methods during infancy and until the patient has attained that degree of growth and strength where a severe operation can be withstood. When conditions permit, it may be well to consider the matter of transplanting the ureters to the sigmoid flexure or the rectum, at the same time closing the bladder defect.

Defects of the spinal and abdominal walls often are associated with cardiac defects, and this factor must be looked for and taken into consideration if found. Yet, one of the most commonly met with of these heart defects is the *open foramen ovale*, which occurs independent of other defects. The resultant "blue baby" is a well-known phenomenon in nearly every community, and practically nothing can be done to remedy the condition. Rarely one of these will survive, the vast majority dying within a few days after birth, although a few will live for weeks and even months.

Cretinism is a condition alleged to be due chiefly to the absence or nondevelopment of the thyroid gland. Organotherapy has done much for these persons to overcome this lapse of nature and to do away with their myxedemic condition. Some of the results following the habitual ingestion of the thyroid-gland preparations have been so startling and amazing

as to be almost unbelievable. I have seen an ungainly, obese near-imbecile transformed in a few months into a normally proportioned, active, and mentally alert child, displaying a cheerful, smiling, attractive face in place of its former repulsive heavy cast of countenance.

In the extremities, various defects are found, the most common being *club-foot*, a deformity often associated with other defects. The proper time to begin the treatment of congenital club-foot is immediately after the umbilical cord has been cut. Some time ago, I published in this magazine an article describing a form of immediate treatment that has proved satisfactory in several cases. A few reprints of the article are on hand and a copy will be sent by me to any physician enclosing a stamp with his request. *Club-hand* also should be treated immediately after birth. Webbed fingers may be allowed to go until the child is a year old and begins to use its hands.

In cases of lack of development of a portion of a limb, a prosthetic appliance may be applied when the child reaches an age where the use of the limb becomes desirable. The early use of these appliances enables the child to secure better mastery over the *rudimentary limb* and makes it less dependent upon caretakers—a point which materially compensates for the additional expense incurred by the occasional replacement of the appliance because of the child's growth.

Thou Shalt Not

Chapter Four in "Lens, Reagent & Co."

By B. G. R. Williams, M. D., Paris, Illinois

Director of The Wabash Valley Medical Laboratory

ACCORDING to accepted teaching—! Just a word in explanation. By accepted teaching is meant the final dictum of a very small crowd of men who hold themselves as authority. In medicine, accepted teachings are floated mainly by chronic text-book writers, high-brow editors, profs and near-profs.

According to accepted teaching (those not having the nerve to vote being counted in the affirmative), the urinary tract has been specially devised by Ma Nature for the excretion of any old substance that happens along. Of course, liquids make up the chief rolling stock, but a few ounces of sharp crystals doing the goose-step over the tender cylindrical cells should attract no special attention. If the patient complains, he should be ashamed of himself.

This is a Children's Number of Clinical Medicine, and our story has something to say concerning the role of painful oxaluria in children; but, I promised, in my article praising the surgeon, that I should have one ready to "hand" to the operator.

Several years ago, I was called into consultation in a case where a man had a severe pain in his abdomen. This pain was referred to his external genitals, was not accompanied by fever, and was intermittent, coming on several hours after eating his meal. An operator had been called into consultation. After asking the patient a few questions and ignoring the physicians present, he turned to the family and said: "These doctors are permitting your father to die. He has a kidney-stone, and this must be removed at once."

Without going into the ethical aspects of the case, I will say that the physicians in attendance objected to being bawled out by this "famous" individual, and so ventured to question his diagnosis. Perhaps they should not have done this, for the "famous," and so on, wore long whiskers and he came from the city. But he had impressed the family. There being nothing more to lose, the attending physicians began to put a series of aggravating suggestions to the consultant, and, before they permitted him to land his expected big fee, they succeeded in persuading the family to have some critical examinations undertaken.

If any stone was present, it cast no x-ray shadow. The great operator sneered, and showed the family a sentence in a textbook, which said that renal stones *do not always throw shadows*. The uranalysis showed a urine laden with sharp crystals of calcium oxalate. (Aggregations of calcium oxalate always throw a shadow.) There was no pus; blood-cells, however, were found. It was interesting to note that, when these crystals

were increasing, the blood was more plentiful in the urine, and the pain was more agonizing.

The victory was dear, but the operator gained it. He showed the ordinary physicians a very skilful technic for ripping open the belly, and then attempted to demonstrate the stone. But, somehow, he did not seem to get by with it. Perhaps those present suffered from refractive errors. Except for the "detritus" observed by the operator, *the kidney and kidney-pelvis appeared to be entirely normal.*

After the "clinic," this fellow tried to warm up to the physicians—but none of them smoked. He reminded them of their ethical duty. When the patient asked them if the master surgeon had found a stone, and whether or not he was cured, they answered, "Yes." (Of course, they did?)

While the operator's wife picked out the new dress, the patient returned to his bed with the same old symptoms. The "ordinary" physicians cured him by means of measures aimed at avoiding crystalline deposits in the urine.

There is no moral to this story, because it strikes at the heart of "accepted teachings." This operator stood in with the various bosses, and his opinion was clutched at by the paraffin-brow editors and served out to the unsuspecting as accepted teaching. I have not said that he is not still living, and possibly you may meet him.

I have yet to hear an operator acknowledge that he ever has seen a case of painful oxaluria. I have yet to meet a physician with any experience who has not treated one or more such cases. A number of very good surgeons have told me that they hesitate to operate in any case where there is no pus, where oxalate crystals are found in the freshly voided urine, where careful work fails to reveal a shadow, and where blood and pain increase as the crystalline excretion increases. I have repeatedly witnessed instances where these surgeons first tried medical and dietetic measures before resorting to the use of the knife.

The operator also has devised technics for "cutting" in all other known diseases—pernicious anemia, nephritis, and so on. Occasionally he does refer a case of measles to the internal-medicine man. Given any case of illness, the plan of treatment varies quite as widely, between that suggested by the surgeon or other physician and that suggested by the operator, as between those proposed by two medical sects.

Thou shalt not question accepted teaching nor attempt to add to it, unless you chance to be an operator.

Nocturnal enuresis in children may be owing to clinical oxaluria. I do not mean to say that all of these cases are oxalurias, nor would I attempt to estimate just what percentage may fall into this class, but the following case history is interesting:

Nocturnal Enuresis, and Oxaluria

First of all, a certain distinction must be kept in mind. A true oxaluria is one in which there is a total increase of oxalic acid in the urine, while a clinical oxaluria is one in which the patient voids a urine containing crystals of calcium oxalate. Either condition may exist without the other.

In the case of a boy of seven years, where the urine was to be examined for a possible cause of nocturnal enuresis, I found a specific gravity of 1041 and a heavy deposit of crystalline oxalates in the freshly voided urine. Did these finds have any bearing upon the case? I believe that they did. As nearly as I could estimate, this little boy did not pass a pint of urine daily. And, yet, the parents would not give him water, because they could not be made to see that water would not aggravate the condition, they reasoning that he would have but the more to excrete. I have always wondered how this case turned out. While I was talking to him, he pleaded pitifully for water.

I would not mislead the reader to conclude that clinical oxaluria is the cause of a very great number of cases of nocturnal enuresis, for I know better. We know that in some cases thyroid deficiency may play a part. In others, improper training may be held to blame. In some children, overwork or exposure, followed by an almost comatose sleep, may be held to account. Some children do not care and may know when they wet the bed. In certain cases, the child may be drinking too much water. In very many cases, no explanation is forthcoming.

Enuresis Among Soldiers

Osler has said that we do not all start in life with the same amount of nerve-capital. It is also certain that some of us never do possess a normal amount or may lose a portion of that which we already possess. Boehme has remarked, in his studies of enuresis occurring among German soldiers on the firing-line (*Muench. Med. Woch.*, May 25, 1915), that these men had practically all

suffered from enuresis in childhood, and that it had reappeared upon the exposure and the hardships. The tendency had been latent since childhood, or, in other words, had been inhibited. The same tendencies are observed in regard to alcoholic intemperance. Some men are able to overcome all taste for liquor, others can never conquer the thirst, while still others are able to abstain for months or even years, only to return to drinking. It is not always efficient, nor is it always fair, to spank the bedwetting child. Now and then, possibly, it may be the proper remedy.

After I had planned and partly written this article, the Editor reminded me that this was children's number of THE CLINIC. I should like to tell you more about "operators" and more concerning oxaluria dolorosa in adults, but it will, perhaps, be more nearly in order to go further into a consideration of enuresis in children.

In the case of two little girls, I have been convinced that the voiding of large collections of uric-acid crystals explained the enuresis. Moreover, it was found in both cases that the urinary irritation continued during the day. The urine was passed at frequent intervals, and the act was accompanied by a burning sensation. Simple inspection of the specimen gave the hint. Their urines contained large numbers of uric-acid whetstones and barrels. A lighter diet, in which meats were excluded, combined with water prescriptions and alkaline diuretics, gave relief in both instances.

I have called attention to the fact that deficient thyroid-gland functioning may have something to do with the condition of enuresis, and, in this connection, it is of interest to recall the fact that this failure of the thyroid gland often is to blame for low nerve-capital. At least, it has been found that in some cases the administration of thyroid extract is followed by prompt correction. Uranalysis may give the clew in the thyroid cases, because the urinary solids invariably are low. Often mechanical measures are inefficient and some of them are cruel, but I have sometimes witnessed good results, and I shall have a word to add somewhat later in this paper. Regular waking-up by the alarm-clock sometimes is curative, but at other times it fails, while always it works a great hardship upon the parents. Spanking is remarkably efficient in convincing some children that they *can* inhibit or wake up, but is of no value where the child has not the nerve-capital to fall back upon.

In the European war, the soldiers suffer from enuresis after the long march. Exposed to cold, rain, and overexertion, they fall into a deathlike sleep. The bladder fills up and finally empties itself automatically, and the brain which would be aroused by the bugle is not impressed by this call of nature.

I know the case of an orphan boy, who, when eight years old, was forced to work upon a farm for his living. He was hurried out at 3 o'clock in the morning and driven hard in the fields until dark. Insufficient food was given him. At night he returned exhausted and hungry. He drank large quantities of water, to make peace with his rebellious stomach, and then slept as one dead. The wife of the taskmaster complained, and the child was driven to the barn to sleep. Eventually he ran away and fell into better hands. A fair chance cured him of the enuresis. In a modified form, such cases are frequently seen. The sleep of the exhausted child is very deep, indeed, and this must never be forgotten.

There are some cases of enuresis which cannot be explained, and these are termed the cryptogenic cases. I know of one such victim, who died a year later of diabetic coma. Analyses of his urine may have shown the glucosuria even during the spanking-stage.

Some Mechanical Methods of Treatment

Thou shalt not wet the bed! The good housewife wrote this law in the book of family statutes many years ago. Often the penalty is severe, but then not always efficient. Now and then the physician is called upon for advice. A few drops of belladonna-tincture (or atropine) will not always do the work.

Mechanical measures may be cautiously carried out in cases where *painstaking examinations show no pathological urinary alterations*—no clinical oxaluria, uricaciduria, phosphaturia or cystinuria—no polyuria or oliguria—no pyuria (colipyelitis) or albuminuria—no glucosuria—no decrease of urinary solids—no hyperacidity of the urine—nor other signs.

Of all mechanical measures which I have seen tried out, those aimed to prevent a very deep sleep are most efficient. Anything that will keep active a subconscious mind with the injunction "Thou shalt not!" is likely to be of use in a certain number of cases which resist other measures. The main difficulty lies in the fact that the youth who

sleeps calmly through nature's warnings soon learns to ignore those devised by man.

Many children prefer to sleep on their backs and when compelled to lie upon their side do not sleep as soundly, for several nights, at least, until the new habit is fixed. I have seen the right thigh anchored by a strap to the bed in such a manner that the child was compelled to sleep upon its left side, and the reverse, the position being changed every third night or as frequently as necessary.

Another excellent device was described in a medical journal, several years ago, and I have witnessed excellent results from its use. A rough stone or other article of about the size of a Brazil-nut is sewed into the back of a thin cotton belt in such a manner as to come into a most direct contact with the skin. This belt is fastened upon the child when retiring, when it must either lie upon its side or upon the stone, but will prefer the former position.

This device, unaided, will not effect a cure, but will keep the child from sleeping soundly for several nights. During this time, the various other methods of persuasion (especially punishment—not the next day, but at the time of the transgression), may be called upon to aid. The fight must be won in a short time, and every inch of ground gained must be held. Soon the child will learn to sleep deeply upon the side. In such case, if victory is not quite complete, illuminate the room, add new sounds, or, if it is necessary, have the child sleep in a chair; the last scene before going to the land of dreams, a member of the family sitting before it, scowl on face and paddle in hand, repeating the caution, "Thou shalt not!" In some cases, this develops the subconscious mind very rapidly. It may be a bit hard on all concerned for a few nights, but it will pay in the long run. A half-victory is the worst of all defeats. These patients will relapse, and then treatment must be renewed promptly.

Any mechanical measure that is not cruel may be given a fair, but only brief, trial. Do not unjustly punish the child. Upon the other hand, do not go to the opposite extreme and exclaim before the child: "Poor little dear, he (or she) just can't help it." That only aggravates the condition. Study the possibilities in each case, and attempt to determine just what may be expected.

Next story, "The Cellular Rebellion."

Accounting for the Unexplainable

By Edwin F. Bowers, M. D., New York City

SIR OLIVER LODGE and many others of the world's greatest scientists virtually concede that what we know as "matter" really is merely a form of vibration, just as are light and sound. In other words, matter is a "mode of motion." Matter, it is contended, is stable only so long as there is no interference with its normal rhythm. What we know as "matter" retains the characteristics peculiar to its form only while it vibrates at a rate normal to itself. If this rate of vibration could be materially retarded or accelerated, the substance would be molecularly altered, and cease to be "matter"—as we knew it originally.

Now, with these facts clearly in mind, let us ask ourselves, What is life? How is life maintained? Why do we die? What is illness? What, besides sex-attraction, constitutes love? What is "vital force"? What causes sleep, trance, suspended animation? What, apart from specific disease or injury, causes insanity, and what changes take place in the demented when reason is restored? Finally, is there any one thing sufficiently potent and comprehensive to account for all these varied phenomena on a rational basis?

Large questions, surely! Still, I am inclined to think that they can be answered. And, putting it in the form of questions, my conception briefly is this:

Why would not the assumption of interference of some kind with the normal rate of vibration in the electrons comprising our body-units account for all the phenomena of life?

Moreover, if light, sound, heat, and matter are merely manifestations of a different rate of vibration, then, also, why might not this hypothesis be extended to include everything —animate or inanimate—organic or inorganic—visible or invisible? For, the electron-units comprising the billions of cells making up our body, including nerve-tissue, must have an inherent rate of vibration which is normal to each of them. Vibrating below or above

this rate, the cells would cease to functionate normally.

The Nature of Life and Death

Now let us suppose that a standard minimum and maximum rate of vibration represents the activity of a living healthy cell. Between these two extremes, the cell functions with healthy energy and physiological vigor; the "life-force"—that unknown, and, perhaps, unknowable principle which regulates these oscillations—can manifest itself without hindrance.

As long as these conditions continue, the aggregation of cells that we call the body will be "alive" and "healthy." Between certain narrow limits of fluctuation in the vibratory rate, life and health will persist. May this not explain the phenomenon we know as "life"—itself perhaps a species of vibration?

To account for the occurrence of death, it only is necessary to postulate either a retardation or an increase in the rate of vibration—a swing of the pendulum outside of the minimum and maximum limits—beyond which life, in this body, can not be maintained. If the rate of vibration, because of accident, shock, a stroke of lightning, fever or any extraordinary stimulus, exceeeded the maximum, it would destroy life—we should vibrate ourselves into another existence.

If the original life-impulse was unable to activate even the normal minimum vibration, because of degenerative changes and those abnormal physical conditions resulting from the accumulation of organic débris in the cells and tissues, death would ensue also.

It will be observed that no attempt is made here to explain the "life-impulse"; for this we can know only through its manifestations. We must accept it as a fact, the same as we accept gravitation, attraction, cohesion, electricity, radioactivity, and the like. We may postulate it as the activating force of matter; which, in turn, possibly merely is vibration, of a peculiar kind.

So, we see that life may be a manifestation of vibratory activity, of a certain rate and normal to the living being; while death may ensue when the oscillations either exceed or fall below that rate.

Sickness an Unbalance of Normal Electronic Vibration

From this, we further reason that sickness, logically, consists in a deviation from the normal rhythm of the body's cells, yet, not sufficiently marked to carry the rate above or below the maximum or the minimum "dead line." Perhaps this may never be mechanically demonstrable; indeed, I can conceive of no possible means of estimating the rate of vibration in a speck of protoplasm. In the case of solid bodies, this difficulty does not exist, for the reason that these substances produce a definite impact upon a diaphragm, the rate of which is measurable.

We are most susceptible to illness when we are "run down," when we are deficient in vital tone; in other words, when our electrons vibrate most sluggishly.

What is the physiological condition of the body when we lack resistance? By reason of enervation, overwork (which means, insufficient recuperation from repeated nervous shocks, or stimuli), and the accumulation of pathological débris and "byproducts" in the system, the cells do not functionate vigorously—do not elaborate in sufficient amounts their proper antibodies and other chemical and organic defences. In other words, they are capable of unfavorably influencing the condition regulating the rate of vibration.

For instance, the accumulation of fatigue-poisons (those metabolic products resulting from the breaking down of body cells) exerts a paralyzing effect upon the activities of the cells themselves; and then their failure to functionate normally (i. e., to eliminate the accumulated toxins) exercises an inhibitory effect upon the rate of vibration of the electrons constituting the cell. This, in turn, causes a still greater loss of osmotic equilibrium (whereby repair and destruction of cell tissue is regulated), and, so, completes a vicious circle.

If an impaction of the bile-duct, or even an ordinary attack of biliousness, tinctures the thought with melancholy, if the absorption of toxic material from the intestine depresses the nervous system and produces all those protean symptoms of autointoxication so familiar to the practitioner, a complete overthrow of the rate of vibration (the basis of all functioning) must be attended by infinitely more potent results. Furthermore, under these conditions, the cells, because of sluggish vibration, fail to overcome the poisons generated within the system and, ultimately, furnish invading germ armies a favorable opportunity for growth and multiplication. Besides, also, may not bacteria and their products constitute just that much foreign material (aside from their toxin-developing power) that would act as débris among the cell-molecules, and still further retard the normal vibrations? Perhaps we need not dread ordinary exposure to germs in the same degree that we should fear that condi-

tion of the body which renders their growth and propagation possible.

A healthy individual, whose rate of vibration is normal, whose cells are not clogged by products of decay, might be exposed to the identical conditions that would cause disease in his neighbor, and escape infection. He would be immune. So, an abnormally lessened rhythm might favor a certain loss of vitality, "tone" or resisting power; or, conversely, an increase above the normal might induce nervous excitation and those phenomena that accompany excessive stimulation.

Insanity and Sleep

This brings us to the question of insanity, for the cause of which we long have searched. Apart from that form due to degenerative changes in the brain-structure—paresis, and mental derangements through skull-bone or tumor pressure—we know no more about the actual physical causes than did Hippocrates. There is absolutely no method of determining, after death (except in syphilitic and traumatic cases) whether a given brain was that of a sane subject or an insane one.

If, however, we accept the vibratory hypothesis, the problem becomes perfectly simple. Shock, grief, worry, drugs, or depleting or unnatural habits long continued might so influence the rate of vibration of the electrons constituting that brain that mental normality no longer could exist. Conversely, relieving pressure and tension, ridding the system of the clogging of faulty metabolism, sedating and quieting the excited nerve impulses, and employing the various other methods of restoring sanity to the unbalanced, might favor a return to a normal rate of vibration—and the patient would, once more, be sane.

Next let us consider the phenomenon of sleep, which has utterly puzzled scientists. Sleep has been explained on physiological grounds, by assuming that the processes of active life cause a breaking down of the cell-structure, which loads the system with such a quantity of "fatigue-poison" that the cells are narcotized by their own end-products. During sleep, we are told, these are eliminated through the lungs and pores, the liver and kidneys, and are prepared for elimination through other channels. Also, cell repair is supposed to progress much more rapidly during sleep than during the waking-hours. All of which is true.

But, we can force active elimination from all channels during the waking hours. Also, the inhalation of oxygen will burn up the fatigue-poisons more rapidly even than they are consumed during sleep. Yet, we know that sleep is a necessity, and that no amount of mechanical or chemical stimulation, no amount of artificial combustion of end-products, no amount of cell irritation can take its place.

We know, also, that during the active, or, perhaps more accurately, the wakeful life (for, philosophically, while there is life there is activity), nerve-nuclei shrink and nerve-filaments no longer interlock so as to convey the nervous impulses unimpeded to the brain. Replenishing vital force may stimulate a normal rate of vibration and thereby equalize nutrition. This may expand the nerve-nuclei and filaments so that once more they can interlock and convey the nervous impulses.

Consider now another point connected with sleep. Physiologists contend that energy develops from the food we eat, the air we breathe, and the water we drink; while, during sleep, the ashes and clinkers are removed from the firebox of our complicated physical machinery. Concerning the first three articles of this creed, there can be no legitimate contention. The body admittedly derives energy from food, air, and water; they are absolutely indispensable to its welfare. But, to the statement that sleep merely affords a more favorable opportunity for oxidizing effete material—burning up and throwing out the slag and refuse—I take exception.

For, as we saw earlier in this article, the slag can be eliminated by means of forced oxygenation. This, occasionally, is done with bicycle-riders and six-day runners, who are liberally stimulated with oxygen, in order that they may better endure the horrible tortures of incident overwork and lack of sleep. They thus burn up their fatigue-poisons and, so, for a time postpone nature's imperious demand for sleep; but this postponement can be for a few days only. The sleep must be made up, if the athlete is not to break down or lose his mind.

Why We Need Sleep

Now, if food, water, and air supply energy, and if we can get rid of the products of cell destruction by forced oxygenation, sweating, and other means, why should we need sleep?

Is it not that during sleep the human dynamo, the vital system, is recharging itself, is accumulating another supply of vitality? To my mind, the inference is plain.

During sleep, the rate of vibration is equalized—or, more accurately, normalized—by the development within the body and the *absorption into the system*, of a definite amount of vital force. This vital force, by the way, *does not seem to come under the natural laws of conservation*, but may, more appropriately, be classed as a form of "cosmic energy." Therefore, repeated shocks upon the nerve-cells during the waking life will partly exhaust the vital force itself, so that it no longer can stimulate the normal rate of vibration.

This explanation seems more likely when we recall that the longest anyone can be kept awake without becoming insane is ten days. By the expiration of this time, the vibrations may have become too weak longer to activate the organism, and the victim succumbs to this most horrible form of punishment. Sleep, then, is necessary, in order to permit the vital forces to crank again the neural engine—to replenish once more exhausted subliminal stimuli.

Now, what happens when sleep sinks into trance, or, into catalepsy? What occurs when one is asphyxiated by gas? or drowned? or overcome by an overdose of some powerful narcotic? Why does massage of the heart or the use of the pulmotor restore the seemingly dead to life?

I take it that all these conditions simply are gradients of that slowingup of the rate of vibration which manifests itself, in its light form, in sleep. Massage of the heart-muscle, a shock from the galvanic current, or the forced inspiration or expiration by the pulmotor stimulate the life-force, acting through vital organs, so that it can again raise the vibratory rate to a pitch where this activates the nervous impulses that control life, and that thereby the seemingly dead (or perhaps actually dead) patient is restored to relatively normal vigor.

This would also account for the stimulus derived from the administration of infinitesimal quantities of drugs, such as are given by our homeopathic friends. It is a matter of everyday knowledge that in some cases of collapse these physicians get substantially the same results that allopathic physicians secure by the exhibition of heroic doses of some powerful stimulant. In fact, under certain conditions, the slight "needle-prick" of the 30th decimal dilution of nux may resuscitate a patient who is almost moribund. This cannot be explained on the principle that the body-cells have been shocked into a functioning condition by the drug. Actually, there would not be sufficient stimulus in any quantity of this solution to cause this effect. But the vital force governing the rate of vibration may be influenced by even this homeopathic dose. For none can say just how much or how little of anything may be required to stimulate the subtle life-forces.

The Essence of Personal Magnetism, and Love

We now will consider an exceedingly difficult and intricate problem, namely, the essence of magnetism. Why is it that we are attracted to certain individuals and repelled by others? Is there a scientific basis for love and affection? Why should a man select one woman out of thousands who may be equally, or even more attractive? If it is merely sex-attraction, why is it not equally strong toward all physically perfect and attractive women? Why does love sometimes burn out? Why do we feel the impact of one personality and remain unresponsive or apathetic to that of another?

If we concede magnetism to be a form of vibration, we can readily comprehend why this vibration may encounter a sympathetic response in the organism of one woman, but find the latter totally missing in hundreds of others. On this supposition, we can understand, on scientific grounds, why the society of, or contact with, this one woman should constitute a pleasurable interchange, whereas with others it might be actually distasteful.

And this applies with equal force to all other social relations. The condition, however, need not necessarily be permanent, for, in those who may be indifferent one to the other, frequent contact might so adjust their rhythm of vibration that ultimately they be most harmonious. This magnetic interchange, by the very principle of physical contact, might produce an equalizing or a harmonizing of this vibratory rate, and thus love grow by the very thing it feeds upon.

But, if by reason of illness—particularly if it involves the nervous system—elimination of pristine characteristics, through the suggestive influence of mental processes or through excesses, the normal rhythm of vibration in one or both parties to a marriage be materially altered, we can see where actual hate may replace a former ardent love. Affection may, figuratively, be burnt to ashes; and, than the ashes of a dead love, there is nothing more dead in all nature. This also would explain why a judicious amount of absence might make a heart grow fonder. It would afford the jarring electrons opportunity to return to their normal rhythm, and

give the exhausted magnetism a chance to replenish itself.

Personality Explained

This theory of vibration would also explain "personality." We are attracted by the personality of one with whom we vibrate in harmony, while repelled by another, whose particular power of magnetism is a source of conscious or unconscious irritation to us. The feeling of "acquaintanceship" we have for absolute strangers to whom we are introduced for the first time may be a magnetic attraction based upon a *rapport* of vibration. On the other hand, there are people with whom we might associate forever without feeling that we "know" them. This may have a foundation of reason in it. Though to our everyday minds these people are "known," to our subliminal minds and to the vital force that animates us, they are, and always must remain, strangers.

Yet, some personalities seem capable of accommodating themselves to the magnetism of individuals who exhibit personal and physical characteristics with which they themselves ostensibly can have nothing in common. Why is this? May it not be that these magnetic individuals are able, by an effort of will or some inherent psychical ability, to alter their rates of vibration, to accommodate theirs to vibrations of totally dissimilar magnetism? May this principle not be of the same nature as that, according to which, by switching on a negative or a positive current, the polarity of a salt is changed completely in its chemical characteristics. Successful actors, singers or public men, to attain any degree of popularity, must possess this ability to change their vibratory rates.

Losing Vitality to the Aged

And what of the loss in vitality in children who sleep with the aged? The facts of such loss are admitted by almost every competent medical observer, and the principle has been recognized from time immemorial. Even in the Bible mention is made of the ancient King David, to whom was given a young girl, to supply him with vitality. And but twenty years ago, certain institutions, founded upon the same principles, existed in France. Young girls and boys were supplied to old women and men as bed-fellows. Frequently, the aged reprobates slept between two youths, generally selected from the opposite sex. Almost without exception, these young folk lost in vitality, some actually sickening. The evil effects of this strange sale of vitality were so potent that finally the institutions were closed by police order.

Also, we are familiar with the almost invariable rejuvenation of an old man who marries a vigorous young girl, or of an old woman who purchases the affection, or, at any rate, the marital companionship, of a lusty youth. In most instances, these elderly people seem to acquire a new lease of life.

If we conceive of magnetism as a form of vibration, to be abstracted and absorbed as one abstracts and absorbs electricity from a faradic or a galvanic battery, what more reasonable than to infer that there is an actual diminution in the amount of vital force in the case of the youth, this manifesting itself in irritability, insomnia, loss of vigor, and a general deficiency in the functions of metabolism; also, that the abstraction of a certain amount of vitality should cause a diminished rate of vibration in the molecules of the nervous and other tissues. On the other hand, as a result of this magnetic contact, an increase of this vital force, by the abstraction of vigorous magnetic vitality, and its appropriation by the nervous system of the aged, exercises a stimulating and rejuvenating influence upon the latter.

Authority

Now, by what authority can it be asserted that the various phenomena manifested in life, love or death originate in variations in the normal rate of vibration in the cell-units which compose our bodies? Why should we grant that there are ultra-spectral colors, colors whose rates of vibration are slower or faster than our optic nerves are capable of perceiving?

Why admit that there are sounds too coarse or too ethereal for our auditory nerves to transmit? Why postulate a fourth dimension to explain natural phenomena that cannot be accounted for on a basis of three dimensions?

If, then, the old order changeth and our earlier conceptions of science have had to accommodate themselves to newer and more accurate theories; if the very things we talk so glibly about—gravity, attraction, repulsion, atoms, matter, energy, thought—are mere words, employed to express an idea groping in the dark toward a far-distant light, why may we not entertain yet one more hypothesis; which, though it may, or may not, ultimately be proved correct, still, seems to explain quite clearly and rationally the inner meanings of those transcendal problems of Life, Love, and Death?

What Others are Doing

THE SERUM-TREATMENT OF CEREBRO-SPINAL MENINGITIS OF CHILDREN

According to I. M. Spolverini, of Rome (*Riv. Ospedal.*, 1914, No. 12; cf. *Muench. Med. Woch.*, 1915, p. 5), the specific serum treatment is the best and most effective for epidemic cerebrospinal meningitis of children; however, the remedy must be administered early, persistently, and in large dosage. The injections are to be made directly into the spinal canal or into the fourth ventricle of the brain; being continued the longer, the younger the child and the more severe the attack. A serum not less than two years old is advised, in order to obviate unpleasant side-effects.

If the antimeningococcic serum fails to afford relief, then antiparameningococcic serum should be tried in its place. The ordinary nonspecific treatment of epidemic cerebrospinal meningitis rarely saves the victim.

RECENT DEVELOPMENTS IN THE ANTI-TOXIN-TREATMENT OF DIPHTHERIA

An exceedingly interesting contribution upon recent developments in the use of diphtheria-antitoxin appeared in *The Lancet-Clinic* for June 12 (p. 655). In this paper, Charles A. Stammel Jr. gives the results of this therapy as observed by him in the Contagious Group of the Cincinnati General Hospital, during the last three years, but in which during the last two years the treatment had been modified by substituting the single large initial dose of antitoxin for the small dose, frequently repeated, as was customary up to 1912. The following record speaks for itself:

	No. of Cases	Deaths	Case-Mortality
1912	179	18	10 percent
1913	206	14	6.8 percent
1914	241	16	6.6 percent

Of special interest is Doctor Stammel's study of the mortality of a series of 286 cases occurring between January, 1913, and October, 1914. In this series, there were 18 deaths—a mortality of 6 percent. Of those who died, 13 were suffering from laryngeal diphtheria. In other words, 70 percent of the mortality in this series of 286 was due to the laryngeal complication. These patients died, as a rule, within from one hour to two days after their admission to the hospital, and few had had medical attention before, most of them giving a history of sore throat or running nose for a week or ten days before they were brought to the hospital. Of the 5 laryngeal cases, one was a hemophiliac, another died of heart-block, and the other 3 were malignant and neglected.

The moral is, that, when an attack is recognized early and treatment with antitoxin is promptly instituted, the mortality will be reduced to almost nothing. The principal danger lies in failure to make an early diagnosis.

Doctor Stammel gives an interesting review of the dosage of antitoxin employed by Park, of the New York Health Department, and by Woody, of the Philadelphia Contagious Hospital, the latter's conclusions being based upon a record of 10,000 cases. Park gives the antitoxin as follows: in mild cases, 5000 units; in the moderately severe, 10,000 units; in very bad ones, 20,000 to 30,000 units. Woody administers in every case of dophtheria, no matter how mild, at least 10,000 units. In moderately severe cases, he administers 30,000 to 100,000 units; in severe ones, from 50,000 to 300,000 units.

Doctor Stammel's own practice lies between these two extremes. It is as follows: In mild tonsillar diphtheria, 10,000 units are administered; in moderately mild cases, of two or three days' duration, 10,000 to 15,000 units. If patients have been sick for two or three days, with membranes on the tonsils, pillars, uvula, and soft palate, from 20,000 to 30,000 units are given; if there are nasal or nasopharyngeal complications, from 30,000 to 40,000 units; in neglected and progressive malignant cases, 40,000 to 60,000 units; and, in all laryngeal cases, from 30,000 to 60,000 units.

His practice is, to give the full dosage, whenever possible, at the beginning of treatment, and under no circumstances to be sparing of the amount. The only argument, as

he says, against the use of large doses of antitoxin in private practice is that regarding the high cost; but "even 100,000 units is less expensive than a funeral."

In very severe cases, and especially if the patient is not seen early, Stammel urges the intravenous administration of antitoxin, as advised by Park, who has shown that, when the antitoxin is introduced directly into the vein, there is a one-hundredfold greater concentration in the first hour than when it is administered subcutaneously. When given by the latter route, it takes forty-eight hours to secure the maximum antitoxin percentage circulating in the patient's blood. Intramuscular injections are absorbed twice as fast as are the subcutaneous, and seem to be advisable and satisfactory in the majority of cases where immediate action is not required.

HYOSCINE-MORPHINE IN ALALIC CHOREA

A. Struempell, of Leipzig, repeatedly has seen cases of aggravated chorea (minor) in which the victim temporarily lost the ability to speak, sometimes being dumb for days or even weeks; this condition seemingly owing to an inhibition of the muscular movements. Simultaneously other voluntary muscular movements may be similarly influenced, there may exist pronounced muscular hypotonia and the patellar reflex may be suppressed; not to mention psychic disturbances. In these cases, Struempell has obtained excellent symptomatic results from injections of scopolamine-morphine.

MORPHINE ASSOCIATION WITH INHALATION-NARCOSIS IN CHILDREN

C. Oliva, of Genua, before inducing inhalation-narcosis (chloroform, ether) in children to be submitted to operation, has, for some time, been in the habit of first administering hypodermically a small quantity of morphine (*Rif. Med.*, 1914, No. 30; cf. *Muench. Med. Woch.*, No. 1, p. 16), and has been greatly gratified with the results.

Thus treated, the children are much more quiet; the period of excitation is very slight or entirely absent; much less of the volatile anesthetic is required; the children come to sooner and feel better, by comparison; vomiting does not occur or at least is less severe than usual.

The author asserts never to have witnessed untoward side-effects in the more than 100 operations thus performed. However, we would warn our readers that children are rather intolerant of morphine; when it is employed, as suggested above, the dosage should always be very small.

EUCALYPTUS-OIL IN SCARLATINA

A remedy that is largely employed in England in the treatment of cases of scarlatina, and which is not used in this country as much as it should be, is eucalyptus oil. The writer believes that this method of treatment was introduced by Milne, of the St. Barnardo Home for Boys (London). At any rate, it has been used by many physicians, and uniformly good results are reported. It seems to be quite harmless. The method of employment is as follows:

At the first sign of trouble, the child is put to bed and the eucalyptus-oil is rubbed in all over the body, morning and evening, for four days, and then once a day until the tenth day of the disease. Not only does this render the skin and scales antiseptic, but enough absorption or inhalation of the oil seems to take place to modify greatly the severity of the attack.

This mode of treatment is not sufficient in itself, of course. The logical plan would be, to associate this oil-rub with the use of eliminants, saturating the system with calcium sulphide, injecting vaccines when indicated, and giving special care to the throat and nose, which latter, as we now know, are surfaces of primary importance in the spread of the disease, rather than the scales, which recently we have been brought to believe quite innocent of contagious effect. The nose and throat should be kept clean by means of some nontoxic antiseptic. One author advises, in severe cases, applications of a 10-percent solution of phenol in oil. These are to be repeated every two hours for the first twenty-four, then less frequently.

EHRLICH'S TEST OF URINE IN SCARLATINA, MEASLES, AND DIPHTHERIA

E. Rachmilewitsch has been testing the paradimethylbenzolaldehyde reaction of the urine as proposed by Ehrlich for the diagnosis of scarlatina, measles, and diphtheria and reports his results as follows (*Jahrb. f. Kinderh.*, Bd. 81, H. 2; cf. *Wien. Med. Woch.*, No. 11, col. 495):

The test-solution consists of a 2-percent solution of the reagent added to hydrochloric acid, in the proportion of 1 : 30. This re-

agent will produce an intense red coloration of the urine of persons sick with certain eruptive diseases, either after merely shaking the cold mixture, or upon its being warmed or boiled.

In scarlatina, the reaction was positive in 80 percent; in measles, in 15 percent; but, in diphtheria, in only 1-3 percent (0.33 percent). In serum-exanthems resembling scarlatina, the reaction invariably proved negative. Thus, the author concludes, even though the reaction does not furnish such uniform results as asserted, not long ago, by Umber, nevertheless, the positive showings would seem to indicate that this test offers the clinician valuable diagnostic data for the differentiation of scarlatina from serum-eruptions, as also of scarlatinal angina and diphtheria.

CALCIUM AND CODLIVER-OIL IN RACHITIS

Prolonged investigations on the metabolism in rickets and the rational treatment of the malady have caused E. Schloss (*Monats. f. Kinderh.;* cf. *Wien. Med. Woch.*, No. 11, col. 496) to arrive at a definite conclusion; namely: Prescribe for the rachitic child a mixture of calcium phosphate and codliver-oil, in the proportion of 10 : 100, this to be shaken before using. The dosage is, 5 Grams twice a day. This same mixture has proved useful also in the spasmophilia of children.

THE TERM "BRILL'S DISEASE" TO BE DISCARDED

The term "Brill's disease" is to be discarded, and that at the instance of no less authority than the very man for whom this malady was named, namely, Doctor Brill, of New York. This fact became evident at the meeting of the New York Pathological Society held April 14, when Dr. Harry Plotz, of the Mount Sinai Hospital, read a paper on his already world-famous discovery, that Brill's disease is nothing than a mild variant of the dread typhus fever; and the interesting thing is, that Brill himself congratulated the young investigator (he is not yet 25 years of age, and took his medical degree only in 1913) upon his notable achievement in establishing "the absolute identity of the two types of typhus fever"; and this in view of the fact that, while admitting the relationship between the two, he has been denying the contention by Anderson and Goldberger, that the two are identical, as now proven. (Brill doubts, though, that the body louse is the sole conveyer.)

Henceforth science will recognize (1) epidemic typhus fever—the extremely virulent form—and (2) endemic typhus fever; this latter designation automatically taking the place of the cryptic "Brill's disease," which merely represents a milder expression of the former as to virulency and mortality.

Dr. W. H. Welch, of Johns Hopkins University, has bestowed upon this newly recognized disease-germ the name of bacillus typhi exanthematici (in allusion to the spotting, because of which typhus is also called spotted fever and, in German, "fleckfieber"). This research was conducted in collaboration with Drs. Peter K. Olitzky and George Baehr, and already a protective serum has been produced, which, it is interesting to note, has been administered to several prominent physicians before their late departure for Serbia. The bacilli were tested upon cavies and then upon monkeys, and invariably gave rise to the clinical symptoms of typhus fever.

To make it plain, then, in future, "endemic typhus fever" will be the designation for what hitherto has been known as "Brill's disease."

EMETINE IN TUBERCULOSIS

The hemostatic value of emetine has been established beyond contravention. That it will arrest hemorrhage, and that promptly, even in severe attacks of tuberculous hemoptysis, is attested by many reports. There seems to be a growing belief, however, that in tuberculosis its action is much more far-reaching than this. For instance, in a paper by W. A. Tatchell, published in *The China Medical Journal* for May last, report is made of 23 cases of pulmonary phthisis treated with emetine. Thirteen of the patients, when admitted, were *in extremis* or at least very far advanced, both lungs were affected, and all had attacks of hemoptysis.

Doctor Tatchell began using the emetine for the arrest of the hemorrhage, giving a hypodermic injection of 1-3 grain once a day. This dosage being found insufficient, he increased it to 1 grain, whereupon the results were most satisfactory. Generally after the first injection, and always after the second, there was marked arrest of hemorrhage. The dose was gradually reduced to 2-3 of a grain a day, and later to 1-3 grain, this being continued until the bleeding ceased completely.

Of these 23 patients, 2 died—1 the day after being admitted and the other in 5 days. Five have been under observation since their discharge, the longest period being 18 months, the shortest, 3 months. Not one of these patients has had a recurrence of the hemorrhage, and, what is more remarkable, the diseased areas of the lung have completely consolidated.

Not only does the emetine act as a hemostatic, Doctor Tatchell declares, but it also seems to possess some unknown restorative power. He is not prepared to say whether it exerts any specific action, or not, but in the few cases under observation the examinations for the tubercle bacillus, which were present at the beginning of treatment, gave negative results during later microscopic tests.

Doctor Tatchell raises the question as to whether this alkaloid may not be possessed of some far-reaching potentiality, much greater than we have heretofore thought, in conditions of this character.

EMETINE IN MENORRHAGIA

Dr. W. T. Speaker, of Manson, Iowa, tells us that he has had an interesting experience with emetine, which he employed in a case of menorrhagia occurring at the climacteric. The patient was a woman of 47, and the hemorrhage was extreme. Three other physicians had failed in the attempt to arrest the flow of blood, and the patient was almost exsanguinated when he was called in to the case. Doctor Speaker was able to stop the bleeding promptly, simply by administering 1-2 grain of emetine hydrochloride hypodermically.

This again attests the remarkable hemostatic power of this alkaloid.

THE DIABETIC TYPE OF PYORRHEA

There have been several references in the literature to the frequency with which pyorrhea is associated with diabetes, or, it may be, of diabetes with pyorrhea. The question has been raised as to the possibility of pyorrhea being an etiologic factor. This is a problem which still is unsettled. However, an interesting contribution to the general subject is supplied by D. B. Freundlich, in *The Medical Record* for June 5 (p. 943), in which he asserts that diabetic pyorrhea is peculiarly difficult to cure, requiring, in his opinion, the joint services of physician and dentist about equally.

There is, according to Doctor Freundlich, a peculiar clinical appearance of the mouth in these cases, so definite that in 90 percent of the patients suffering from diabetes the general condition may be tentatively diagnosed by the oral symptoms; this being particularly true for middle-aged patients. The tissues around the teeth in a case of this kind have very little resistance, and any irritation, whether traumatic, chemical or bacteriologic, will cause the destruction of the gums and alveolar process.

Doctor Freundlich has adopted the following line of treatment in this condition, adapting it, of course, to suit the individual requirements of the patient: (1) There should be cooperation between physician and dentist; (2) there should be expert pyorrhea treatment; (3) education of the patient in oral prophylaxis; and (4) injection, into the pyorrhea-pockets, of a 1-2-percent solution of emetine hydrochloride, repeated daily or every other day, according to the severity of the affection. In a large proportion, according to Doctor Freundlich, the inflammation and pain subside before the seventh emetine injection has been given. In cases of this kind, the pyorrhea is bound to recur if the patient does not at all times keep his mouth in good condition, besides consulting his dentist at frequent intervals.

LABORATORY DIAGNOSIS OF PYORRHEA

So many physicians are interested in the method of identifying the entameba buccalis in cases where the patient is suspected to be suffering from pyorrhea, that we reprint herewith the excellent instructions given by Dr. F. M. Johns, of Tulane University, who was associated with Professor Bass in this important investigation. Doctor Johns declares the examination to be very easily made by anyone familiar with the use of the microscope. The various steps are as follows:

"Collection of Material: Pathogenic entamebæ always live and reproduce at the very edge of the living tissue they are invading. In this instance, it is the peridental membrane between the tooth and alveolar process. As the disease progresses, with the resulting destruction of peridental membrane, the surface layer of connective and epithelial tissue becomes inflamed and swollen, closing the gap. Thus, we have the formation of a pocket, usually extending downward along one or more sides of the tooth. The secondary infection of pyogenic organisms carried

into the granulating tissue at the bottom of such a pocket by the entamebæ causes a more or less profuse flow of pus, which fills and often distends the pocket.

"Entamebæ do not reproduce, and actually barely live, in this necrotic material, and upon examination only an extremely few organisms can be demonstrated. It is very essential to remove all such material from advanced lesions, and in all cases to secure material from the very bottom of lesions. In material obtained from the proper location in the lesion, it is the rule to find many entamebæ in each field of the microscope. Many lesions are in almost inaccessible places for the collection of material, and many seemingly insignificant lesions extend to surprising depths.

"Very early lesions as well as further advanced ones of the front teeth can readily be reached with an ordinary toothpick. A properly curved dental scaler, such as the Younger scaler No. 8 or No. 9, is much better. Proper material can be obtained from almost any lesions with this instrument, after a little practice. With any instrument, care should be taken not to traumatize the tissues. The granulations bleed easily, and in material diluted with several drops of blood the examination frequently fails to reveal parasites.

"Preparation of Material for Examination: With a clean toothpick, the material is scraped from the end of the scaler onto a clean glass slide and spread out to form a thin layer with the flat side of the toothpick. This should be accomplished with one stroke, care being taken to hold the pick lightly and not to rub the material back and forth, to avoid breaking up the amebæ. The slide should then be allowed to dry in the air, and, when kept dry, may be stained and examined at any convenient time. Stained preparations are recommended chiefly because these entamebæ are very small and are easily mistaken for the many different motile cells found in pus in the ordinary 'wet' preparations, whereas they are very easily identified in stained preparations; and also because they may be examined or compared with other specimens at leisure.

"Staining: (1) The smear is first fixed to the slide, by passing the slide, film-side up, through the flame of an alcohol-lamp or Bunsen burner, one or more times until the slide feels fairly hot when applied to the back of the hand.

"(2) Apply one or two drops of Czaplewski's carbol-fuchsin for a few seconds. Rinse off excess of stain with water.

"(3) Apply Loeffler's methylene-blue for fifteen to thirty seconds. Usually the stain is applied for a short time, rinsed off with water and examined against a light background. If not stained sufficiently, the stain is again applied. Properly stained preparations have a deep-purple color.

"(4) Blot off excess of water. Dry in the air. Examine with the 1-12-mm. oil-immersion lens.

"Examination and Identification: Material from the proper location in the lesions will show about as many red blood-cells as pus-cells, with a good many large cells from the granulating surface, many bacteria, spirochetes, and a large number of entamebæ. The red blood-cells stain a deep-red. Pus-cells show a bright-purple irregularly shaped nucleus with light pink protoplasm. The larger tissue-cells show a red- to pink-staining protoplasm with a small purple nucleus. Bacteria and spirochetes—depending upon the species and varieties—stain blue, purple or bright-red."

"The entamebæ usually vary from about the size of a pus-cell to about four times their size. The endoplasm stains a deep-blue and is surrounded by the slightly irregular border of purple-staining ectoplasm. A small round or oval nucleus staining a deep-port-wine color is found centrally, along with from 1 to 10 or 12 inclusion-bodies of nuclear material staining a deep-purple or blue-black. These inclusion bodies are contained in vacuoles shown by a clear ring about each one. Usually the whole entameba appears to be surrounded by a clear zone showing the retraction of the protoplasm while drying. Once properly stained entamebæ are found, it will be readily appreciated that their appearance is so characteristic that they will never be mistaken for any other body likely to be found in pus from this locality."

QUININE AND UREA HYDROCHLORIDE AS A CURE FOR HEMORRHOIDS

Phenol is the remedy principally used for the injection-cure of hemorrhoids, but Dr. E. H. Terrell, in *The Virginia Medical Semi-Monthly* for June 25 (p. 139), gives a preliminary report of some 33 cases treated by injecting a solution of quinine and urea hydrochloride directly into the piles. Out of 33 patients, 32 were cured, so that there was only one failure. In the latter, there was a history of syphilitic infection, with rectal ulceration.

Doctor Terrell declares that in the majority of cases this treatment was painless. Out of his 33 subjects, 26 made no complaint whatever. Some said there was discomfort and a slight throbbing sensation for a few hours after treatment; 3 complained that the pain was severe, but 2 of these patients were neurotic.

Only one hemorrhoid is treated at a time, the injection being made very slowly, enough of the solution being introduced to distend the pile moderately. Doctor Terrell does not give the strength of the solution employed, this being at present a matter of experiment; however, he promises a more detailed description of the technic in later communications.

CARCINOMA OF THE COLON IN EARLY LIFE

A certain clinical interest attaches to the recent publication of an article concerning carcinoma of the colon in young persons, being a compilation, by J. Bour and P. Bertain (*Arch. Gen. d. Chir.;* cf. *Ther. Monatsh.*, 1914, p. 672), of all cases they found recorded for subjects less than 25 years of age. These instances, including 2 in their own practice, number 23.

The practical bearing of this knowledge lies in the fact that the physician, when dealing with obscure disorders of the intestine, should bear in mind the possibility of the existence of colon-cancer, and act in accordance. However, in only 5 instances of this kind has radical intervention been practicable.

PHENOL TREATMENT OF ERYSIPELAS

Numerous local applications are used in the treatment of erysipelas, but A. Judd (*N. Y. Med. Jour.*, June 12, p. 1208) believes best results are secured by painting the involved area and about 1-2 inch of the surrounding healthy skin with a 95-percent phenol-solution, this being left in place until the skin is white. Care should be taken not to leave the phenol on long enough to produce thorough blanching, since this may be followed by sloughing. As soon as the skin is sufficiently whitened by the carbolic acid, carefully swab the whitened area with alcohol until it becomes pink-colored again.

Doctor Judd insists upon the importance of covering, not only the affected area, but also the surrounding healthy skin to the extent of 1-2 inch, as described. If this precaution is neglected, there is likely to be an extension of the process. He declares that following these applications the temperature falls rapidly in most instances. No toxic action or fever has been observed, although sometimes the urine is darkened and emits the characteristic phenolic odor. In grave cases, the patient may be supported by the use of strychnine and alcohol internally.

STOPPING BLEEDING OF WOUNDED HEART BY MEANS OF MUSCLE IMPLANTATION

A daring operation upon a heart perforated by a bullet is reported (*Muench. Med. Woch.*, 1914, p. 1827) by A. T. Jurasz, of the Surgical Clinic at Leipzig; being the first known instance of a successful implantation of a piece of muscle into this organ after injury.

A pistol-bullet had passed through the left ventricle of the man's heart and left a bad, ragged wound at its exit. A number of silk stitches were inserted, but these failed to prevent entirely the leaking of the blood. Thereupon a bit of muscle, 1 cm. long and 3-4 cm. broad, was secured from musculature of the chest and sutured into the opening. Instantly the coagulating properties of the muscle-tissue caused the blood to curdle, and the bleeding ceased.

The operation was completed by rinsing the pericardium with physiologic saline solution, suturing the wound in the lung, irrigating the entire pleural cavity, then closing the chest and treating the passage of the bullet in approved manner. The case proceeded normally to cure.

Here once more is demonstrated that always, when the possibility of lesion of the heart exists, operation should be undertaken without delay; for, the author had been uncertain in his diagnosis, but happily proceeded to make an exploratory pericardiotomy, which revealed the true condition.

HYOSCINE-MORPHINE WITH COCAINE ANESTHESIA IN SURGERY

So much has been said about the value of hyoscine-morphine injections preliminary to volatile anesthesia, that it seems almost superfluous to add anything new. However, the contribution of A. G. Brenizer to *The New York Medical Journal* of June 12 (p. 1215) is of peculiar interest, because of the clearness with which he points out the advantages of the combined use of hyoscine-

morphine hypodermically, and cocaine for local anesthesia.

The hyoscine-morphine (or scopolamine-morphine) is given an hour and a half before the operation, so that the patient does not know when he is placed upon the operating-table, and, consequently, there is no sense of fear, no disturbance when the cocaine injections are made, and no struggling when the inhalation-anesthesia is begun. Furthermore, the patient passes quickly under the influence of the volatile anesthetic, without experiencing the usual disagreeable sensations of suffocation, sinking into space, and the like. Respiration is smooth and regular, there is little or no accumulation of mucus and saliva, which obstruct breathing or soil the operative field, and vomiting is rare. The scopolamine-morphine anesthesia is particularly useful in goiter-cases, in which operations under general anesthesia often are perilous.

After operations under this combined anesthesia, the pain at the site of the wound is much less severe than when the scopolamine-morphine was not resorted to. Shock is largely done away with, while the nerve-blocking injection of cocaine reduces the harmful central influence upon the nervous system.

PATHOLOGIC ANATOMY OF TUBERCULOSIS OF CHILDREN

A. Ghon and B. Romer have made a careful study, after death, of the bodies of 6 tuberculous children (*Jahrb. f. Kinderh.;* cf. *Wien. Med. Woch.*, Mar. 13, col. 496), and in all but 1 instance the oldest nidus of infection was found, with more or less certainty, to have been the lungs. In the single doubtful exception, the original tuberculous site of invasion may have been in the intestine.

CHRONIC ARTICULAR RHEUMATISM IN CHILDREN

While acute articular rheumatism is of rare occurrence in child-age, chronic articular rheumatism (more properly, rheumatoid arthritis or arthritis deformans), according to J. Westmeyer (*Jahrb. f. Kinderh.;* cf. *Wien Med. Woch.*, Mar. 13, col. 495), is not as well understood and recognized as a pathologic condition as it should be. The condition, the author has observed, is characterized by its imperceptible development, the persistency of the remitting fever-attacks, and the tumorlike enlargement of the joints, and the fact that almost always the cervical vertebras are involved.

The disease preeminently attacks young children (in one instance as early as in the ninth month), and will persist for years. Occasionally thermotherapy and mechanotherapy produce a cure. The heart rarely becomes involved. Whether there is some connection between this malady and acute polyarthritis, the author leaves an open question.

LIMITING THE PROGRESS OF PELVIC CARCINOMA

Doctor Bainbridge, of New York, has reported, in *The American Journal of Obstetrics*, his attempts at checking the progress of inoperable cancer of the pelvic organs, a method resulting more or less successfully in a number of a total of 56 patients so operated upon. His idea is, to starve the tumor by ligating the arteries nourishing it, and, furthermore, to extirpate connected lymphatic glands, in order to prevent dissemination of cancer-cells and absorption of toxic material.

IODINE TREATMENT OF WOUNDS

The present war in Europe is said to be an iodine-war; at least, iodine is the antiseptic most generally employed, particularly by French and English surgeons. It is now being supplied in ampule form in the first-aid packet with which every French soldier is provided. In an interesting article upon "The Treatments of Wounds in War," appearing in *The Lancet* of June 12 (p. 1265), we find a review of a method employed by an American physician, Dr. Douglas H. Stewart, of New York, well known to our readers as a frequent contributor to this journal.

Doctor Stewart recommends a combination of calomel and tincture of iodine, in the proportion of 1 : 1000. Thus combined, the iodide of mercury is formed. For washing and dressing wounds, 1 part of this solution is diluted with 16 parts of water. The wound is cleaned and filled with the solution, toilet-paper being employed for swabbing; the latter, folded and soaked with the solution, also being employed for the purpose of drainage. Then the entire wound is covered with this soaked toilet-paper, over this a layer of dry paper is placed, and finally a bandage of gauze or other suitable material is applied.

It is claimed by Doctor Stewart that the toilet-paper answers well for the purposes

named, inasmuch as it is porous and absorbent and provides an excellent drain; moreover, it does not adhere to the wound, does not spread, curl or unravel into threads.

Another expedient employed by Doctor Stewart in the treatment of fresh wounds is a gauze drain, the gauze first being washed with the iodine-mercury solution, then fried in lard at a temperature of 175° C. It is claimed that this cooking in lard permits of the application of a much higher temperature than when water is used, with consequent destruction of all germs and spores. Also, this fat-permeated dressing can be removed from the wound much more readily than ordinary gauze, the result being a minimum of pain and the slightest possible injury to the surface of the wound. Doctor Stewart recommends the use of dressings of this kind during the current campaigns in Europe.

MODIFIED METHOD OF ADMINISTERING VOLATILE ANESTHETICS

At a meeting of the Society of Physicians of Vienna, Doctor Ebel has made the statement (*Wien. Med. Woch.*, 1914, No. 49) that the following modification of the customary method of administering ether or chloroform for general anesthesia—that is, the use of the ether-mask—has given him great satisfaction:

The entire face of the subject is liberally covered with petrolatum; this, to protect the skin from the irritating vapor. Next, a compress of gauze folded six or eight times is lightly placed so as to cover the mouth and nostrils. Then the narcotizing fluid (ether containing 10 percent of chloroform being favored) is dropped, *lege artis*, upon the compress.

Thus administered, comparatively much smaller amounts of the anesthetic are required, the assertion is, while the subject revives quickly.

RADIOTHERAPY FOR HIGH BLOOD PRESSURE

Having seen some satisfactory results from the application of Roentgen-rays in diseases connected with deranged endocrine glands, and in view of the important role played by the suprarenal glands in the pathogenesis of arteriosclerosis, Zimmern and Gottenot (*Presse Med.*, 1914, p. 133) undertook to try radiography in persons showing elevated blood pressure.

The authors directed the powerfully penetrative x-rays against the region of the suprarenal glands, of 10 cm. diameter and centered over the 12th rib. Out of 29 patients thus treated, only 4 remained unaffected, while in the others there occurred a diminishment of between 1 and 7 cm. Hg. In one, this improvement had continued for seven months; the others had to repeat the treatment from time to time.

The best effects were observed in cases of pure hypertension, without atheroma or renal lesion. Contraindications are, diabetes and albuminuria in arteriosclerotic individuals.

Uterine fibroma may be reduced or even dispelled by means of x-ray therapy; in 90 percent of the subjects, the authors secured cessation of the bleeding within a few weeks. At the same time, premature menopause may result, with all its various complications.

SIMPLIFIED METHOD OF STERILIZING INFECTED HANDS

The problem presenting itself of how to sterilize infected hands, if possible excluding prior washing and scrubbing with soap, was solved to the satisfaction of P. Boerenstein, of Berlin (*Zeit. f. Hyg. u. Inf.*; cf. *Muench. Med. Woch.*, No. 4, p. 120), as follows:

By far the best results were secured with plain alcohol, respectively alcoholic solution of soap—preferably castor-oil soap. Simply rubbing the hands with from 5 to 10 Cc. of such soap-spirit, in 75 percent of cases sufficed to annihilate completely the colon-bacilli with which the hand had purposely been contaminated; the results being still better when cotton wads or mull rags were employed in the rubbing-process. With the latter, a little more of the spirit was used up, the procedure requiring about 20 Cc.

CARDIAC DERANGEMENTS OF SOLDIERS IN WAR

A somewhat interesting observation about the soldiers now engaged in the European war is reported (*Muench. Med. Woch.*, Jan. 26) by M. Fischer, surgeon in the lazareth at Bingen on the Rhine. A large percentage of the wounded men brought in were suffering from some disorder of the heart-action, systolic and diastolic irregularity in various forms and combinations, besides that of rhythm and aortic tone—although often they themselves were unaware of any weakness. This led the author first to submit

every patient who was to be operated upon to a critical test.

The number thus covered by this report was 158 men, and in the statistical formulation there were rigidly excluded all having or having had any heart trouble or who had suffered from diseases liable to lead to such. Of this class, there were 27 in all. Out of the 137 thus left, 51—or, 39 percent—exhibited cardiac anomalies, the most frequent (21 cases) irregularity being systolic sounds at the apex.

In the greater proportion of those of this category, subsequent history revealed neither signs of cardiac irregularities incident to valvular lesion nor compensation disturbances. Consequently to a large extent these cardiac sounds quite likely were not an expression of an actual lesion of the organ, but in all probability were the result of a temporary weakening of the heart-muscle, owing to the severe and unaccustomed exertions to which the exigencies of the campaign had subjected these men.

PAPAVERINE AS A SUBSTITUTE FOR MORPHINE

Some months ago, we published a note (April, 1915, p. 354) on the value of papaverine in combating whooping-cough, while now we encounter another exhortation, to accord this opium alkaloid greater recognition, by J. Pohl, of Breslau (*Berlin. Klin. Woch.*, 1914, Nov. 20; cf. *Muench. Med. Woch.*, Jan. 5). His experience since the war began warrants him in claiming for it therapeutic properties that constitute it an excellent substitute for morphine, while its relative nontoxicity is a further advantage.

Concretely, and fitting the period, the author connects his plea with the present dislocation of commerce and the great need of the powerful morphine for the wounded soldiers of his country. But, aside from this localized feature, one well might look for a more extended use of papaverine in the treatment of children, the aged, and in conditions where morphine may seem dangerous, or at least undesirable.

ALCOHOL INJECTIONS FOR OBSTINATE TRIGEMINAL NEURALGIA

At a meeting of surgeons at Heidelberg, George Hirschel of that city reminded his hearers (*Muench. Med. Woch.*, Jan. 5) that Harris (Jan., 1912) was the first one to treat trigeminal neuralgia by injecting alcohol into the gasserian ganglion, reaching the latter in a diagonal direction along the cranial base. Soon afterward, Haertel successfully employed this cure, but introduced the needle frontally toward the foramen frontale.

The speaker stated that he had followed Haertel and effected lasting cures in the 7 patients thus treated, the last one several months back, the first one, one-half year ago. All his cases had lasted a number of years and resisted medicinal and operative treatment, in most of the subjects several branches of the nerve being involved. Consequently, he warmly recommends this procedure whenever this affection has to be treated, convinced that it virtually will eliminate the difficult operation of extirpating the ganglion.

The effects of the injections are evidenced within a short time, those fibers of the nerves and ganglion reached by the alcohol becoming anesthetic or hypoesthetic almost instantly, and the pain ceasing. As a rule, the corneal reflex was abolished or greatly diminished, but not permanently, returning within a few hours or two days at the latest; Haertel, though, in 14 out of his total of 24 subjects, has reported permanent anesthesia of the cornea. The reason for these differences in the corneal results is, that by vitrue of its position the first branch does not always receive a full complement of the alcohol.

Hirschel advises covering the involved eye with a watch-crystal and keeping the patient in bed for a few days. In 2 instances, the pains merely were somewhat lessened at first, complete cessation occurring only after the lapse of a number of days. A second injection never became necessary.

TECHNIC OF INJECTING ALCOHOL INTO THE GASSERIAN GANGLION

In executing the injection of alcohol into the gasserian ganglion for the cure of obdurate neuralgia of the facial nerve, as discussed in the anteceding paragraph, Doctor Hirschel employs essentially the method of Haertel; his technic, as described (*loc. cit.*), being as follows:

The patient's head is held firmly by an assistant. The pointer of the ganglion-cannula is set at 6 cm. from the point. Now with the cannula pierce the cheek at a point opposite the second molar and, guiding with the index-finger, push the instrument upward, submucously, between the mandibular rame and the maxillary tuber, until it strikes the infratemporal plane; thereupon remove the finger from the mouth. The pointer on the

needle, which is seen to be near to the skin, now is shoved 1 1-2 cm. backward (away from the cheek), the distance the needle is to penetrate into the skull.

With your face exactly opposite that of the subject, carefully point the needle so that the prolongation of the axis of the cannula would strike the pupilla of the eye on that side. This brings the needle's point to near the third branch of the trigeminus, and pushing it further now becomes painful. After a little cautious moving to and fro, the instrument is felt to move forward unresisted and penetrate into the foremen ovale. Severe pain now is likely to be experienced by the patient, principally along the third branch; at times various paresthesias also occur. The needle must not enter the skull further than 7.5 cm. If the nerve is encountered in the bony canal, the point of the needle will be felt to impinge upon the hard, tense structure of the nerve.

At this juncture, it is advisable to inject a few drops of a 2-percent novocain-solution, whereupon the trigeminus is analgized and all pain ceases instantly. Next proceed to inject the alcohol, 1-2 to 1 Cc. of 70- to 80-percent strength [By weight, presumably.—Ed.], cautiously moving the needle slightly backward and forward a few mm. a number of times, in order to insure thorough moistening of the nerve. Unless the nerve first was anesthetized, the introduction of the alcohol generally gives rise to a sudden acute pain, but only for a brief period, when it stops completely.

SUBSTITUTES FOR SURGICAL COTTON AND BANDAGES

The world is witnessing how, under the driving force of necessity, the German nation is bringing to bear its ingenuity, adaptability, and prevision, qualities that now are recognized to enable it doggedly to continue a war that ordinarily would have crushed it long ago; and it is this careful husbanding of all its limited resources, from the biggest to the minutest affairs of life, that is giving it its tremendous power and that eventually has wrought that mighty empire out of weak, poverty-stricken people. Well might other peoples, above all we of the United States, pause and take heed in the reckless, nonchalant prodigality in every phase of our lives. The points involved in the present note to us, in our present seemingly inexhaustible wealth, in themselves are trivial, indeed, and may lead many to sneer; however, we are fast approaching the limits that thus far happily have separated us from the economic fate of effete Europe, a period when upon us also will imperiously be impowed the "counting of the pennies."

And the actual object of this little sermonette on providence merely is, to mention the fact that the German, although not now confronted by necessity, is now producing paper bandages that, while not applicable where strength is required, nevertheless serve excellently for minor occasions, and are economical, when such enormous quantities are being used.

Another such economy is, the substitution, for absorbent cotton, of a substance termed "zellstoffwatte," or, cellulose-wadding (or wool); the specially prepared fiber of, presumably, some native herbaceous plant or shrub. We are told that it very nicely serves in the dressing of wounds; however, since Germany at the time had plenty of cotton, Dr. M. Piorkowski (*Muench. Med. Woch.*, Jan. 26) recommends that it be utilized in the chemical and biological laboratories in the place of purified cotton for all purposes, including its employment as a substratum for making bacterial cultures—even possessing some advantages for the latter purpose.

ULTRAVIOLET LIGHT FOR PURULENT WOUNDS

According to V. Hufnagel, of Namur (*Deut. Med. Woch.*, cf. *Muench. Med. Woch.*, No. 4, p. 120), the after-treatment of purulent wounds with ultraviolet light from a quartz mercury-lamp yields excellent results with reference to the cleaning- and healing-process; while the simultaneous general irradiation allays pain and contributes to improved sleep, appetite, weight, and general wellbeing.

THE QUADRICENTENNIAL OF ANDREAS VESALIUS

Under the leadership of H. Virchow, of Berlin, various medical societies of Germany are preparing a modest celebration of the 400th anniversary of the birth of Andreas Vesalius on December 31. One feature will be, the gathering of delegations at the memorial statue erected in honor of this great anatomist in the city of Brussels. From exchanges it is learned that the Kaiser-Friedrichhaus at Berlin has a complete collection of the writings of Vesalius.

Miscellaneous Articles

The Relation of the Hospital to the Rural Physician

THE FIRST editorial in the June number of CLINICAL MEDICINE, on "Rushing Patients to the Hospital," has inspired me to add a few thoughts anent this important theme, upon which growing experience gradually is revealing more facts concerning hospitals, their management and their relation to the public, and to the medical profession.

There can be no question but that the hospitals are a benefit to the public, especially to people of means, and through their partial charities they prove helpful to the poor. Whether they benefit rural physicians, though, is exceedingly doubtful.

In referring to the financial embarrassment confronting many patients that should be sent to the hospital, as well as the embarrassment, in consequence, of the attending physician, the writer of the editorial in question made an excellent point. But it is my opinion that he was a little too fearful of arousing opposition by derogatory insinuations against the hospitals. Still, the hospitals must be able to withstand all just criticism, or else we, as physicians, are in danger of being injured by their influence upon the public as well as by their influence upon ourselves.

It looks to me as if the young doctors leave college nowadays with decidedly erroneous ideas regarding the hospitals. They seem to consider these institutions absolutely essential in the successful management of all serious cases. The reason, largely, for this is, that their experience up to the time of graduation has all been in connection with hospitals and they are not familiar with the splendid results that can be attained in private homes—as, indeed, was true in the preclinical era. These neophytes are used to observing the work of great men in college, and, because those celebrities continually advise their students to send their patients to the hospital, they feel handicapped when circumstances force them to practice their vocation in some small town where the so-called advantages of these institutions are not available. They think they can do neither themselves nor their patients justice without following their professor's advice as to disposing of their patients.

These young doctors forget that all our college-professors are connected with one or more hospitals and that, when they seemingly have only their students' and patients' interests at heart, they really are working largely for their own financial interests.

I have nothing to say against any doctor, young or old, who wants to send his extremely serious surgical cases to the hospital, where they can get the services of specially skilled operators, and all the appurtenances. But every young doctor who in this respect follows the advice of his teachers or that of the socalled "higher lights," will never attain the skill of the surgeons of these institutions, because he will never be able to learn the lessons which the former learned by practice. And the more the young men shrink from the responsibility of treating serious cases, the less nerve they will have for assuming such responsibility, and the less capable they will become from lack of experience; so that in the end they get in the way of sending off less and less serious cases, until they are mere figureheads in the profession and advance-agents for the hospitals.

This is not the worst feature. As the young doctor grows older, he not only loses confidence in himself and becomes less capable of treating disease, but; by sending his patients away, he turns what should be his income over to the hospital-doctors; and even if he does receive a part of the fees at first, he ultimately finds himself without patients, so that he is forced to change his occupation.

All our hospital-doctors come to look with contempt upon those rural doctors who are willing to turn their business over to them and divide the fees. They know perfectly well that the next time those patients really need a doctor they will save expense by

going to the hospital direct, where there is someone capable of treating them.

For a short time, people may think the family doctor who sends his patients to the hospital is a safe and capable man; they may think him unusually honest, because he tells them they are "very sick" and had better go where they can get better care than at home. But soon they will see this man in his true light; they will see that he is incapable, that he simply is a middle-man between themselves and the hospital-doctor. Then they begin to wish for a real, a good doctor in their own town, while going more and more to adjoining towns and hospitals for medical services. While this habit on the part of the laity is not all caused by inefficient medical service, the laity is no more to blame for this condition than are the doctors themselves.

While I believe the above to be a fair presentation of the case, I do not consider doctors associated with hospitals as especially superior to those outside. When they each start in practice, there ought not to be any difference in their average capabilities. But there is no question but that doctors who are able to gain a hospital footing have the advantage over those outside, not because of their superior professional skill to start with, but because of their natural courage and self-confidence. They start out with the determination to build their own reputations, and they have the nerve to undertake even the impossible sometimes. Too often the rural man is lacking in courage and self-confidence, and is willing to build some other man's reputation, instead of his own.

The men who are operating and controlling our hospitals are focalizing and monopolizing the practice of medicine today, through the cooperation of our unsuspecting rural doctors, until many of the latter class will find it more profitable to locate on Uncle Sam's unoccupied land and make their living raising wheat and chickens than by continuing longer in what is bound to be a losing fight against fate in the practice of medicine.

Aside from the clinical advantages and bedside experience they afford our medical students, I consider the hospitals a great detriment so far as the rural doctors are concerned. They are the natural outgrowth, however, of an active, competitive struggle, in an overcrowded profession, which enables one class of doctors to take another into silent partnership, and thereby eliminate competition, until they are able to push them aside or walk over them to victory.

I am not comdemning the hospitals. But, they are manmade institutions; and, while they are a great benefit to the public, they are not half as beneficial to the public as they are to the men who own and control them.

Another point which I wish the profession to note is the fact that the same business brains that operate and control the hospitals throughout the country are striving to lessen competition still further, by driving all medical colleges possible out of business, and increasing the difficulties of the young medical aspirants, by prolonging their course of study, raising tuition and making the examinations as hard as they can. They are also seeking legislation that will require all rural doctors to be examined every ten years before a board of their direction, with a view to revoking all the certificates possible; besides in other ways striving to increase the difficulties for the men who are not able to get into the hospital-ring or into the "select" society of "American Surgeons," who consider themselves at the top of the professional ladder. This effort is being pushed steadily and determinedly, with a view to driving as many doctors out of business as possible, under the pretense of raising the medical standard "for the good of humanity."

O. J. Ruth.

Colchester, Ill.

MALNUTRITION IN INFANTS, AND ITS TREATMENT

I note with pleasure that you purpose to dedicate your next issue to the diseases of children, and invite practical articles from your readers. So, I am going to say a few words about the treatment of a very common disease, encountered in young children; but, the condition I refer to really is a symptom rather than a disease in itself. I have reference to malnutrition, or marasmus.

Recently I have had several of these little patients under treatment. I take it to be a disorder well known among doctors. Usually the mother will tell her physician that her baby is starving and that what she is feeding her child does it no good. The mother is usually right in her statement. The child really is gradually starving to death. The condition almost always follows an attack of bowel trouble. The impoverished child will evince a morbid appetite and take enormous amounts of food into its stomach, yet, owing to defective digestion, it loses weight day by day, until it is reduced to a mere skeleton before the doctor is consulted.

This is sufficient for the introduction, as I am sure every doctor who reads these lines will know what the condition is. I have not failed to bring one of these little patients back to normal within a few weeks.

I always begin by giving small doses of calomel and pepsin, to insure the cleaning out of the alimentary tract. I tell the mother that she must make up her mind to be patiently employed for a while, that her child must have the very best attention at all hours, otherwise she will have to give her babe up to death.

I direct a "rest-food" for some two or three weeks, depending upon the state of the child. No two children will require exactly the same method of feeding. I tell the mother also that her child needs very little medical treatment. She only needs to be taught how to feed her babe. I always give my directions for the feeding explicitly and minutely detailed and written on my machine.

I give them the following formula for making the milk-whey, or "rest-food." I call for one pint of fresh cow's milk, this to be placed into a clean saucepan and made lukewarm (not over 100° F.); then add 2 teaspoonfuls of Fairchild's essence of pepsin and stir just enough to mix; let it stand until firmly jellied, then beat up with a fork. Now strain through clean cheese-cloth. The liquid portion—whey—is the food.

I direct from 2 to 6 or more ounces of this to be given at stated intervals, according to the age of the child. This will take care of all hunger of the patient and will soon prepare the stomach for a more solid food to follow. If it is a breast-fed child, this rest-food diet will prepare the stomach for the mother's milk. The idea is, to give this milk alone for a short while.

I direct adding lime-water to all drinking-water, and some to its food. Some fruit-juice, scraped apple, baked apple, rice-water, oatmeal-gruel, scorched-flour bread, finely powdered, served with skimmed sweet milk. In many of these cases, I direct peptogenic milk-powder, used as per the directions printed on the package.

I give drop-doses of tincture of nux vomica in water when the appetite is lax and where the patient does not take well to its new diet. I direct a salt-water bath each day, followed by a good oiling of the body with a good grade of olive-oil.

I watch the kidney action closely. The child is weighed daily and a record is kept. I want to lay stress upon one point, and that is, these sick babies need very little medicine in the way of tonics, and the like. I have seen these conditions treated by some physicians with dope of all kind, and almost in every instance where medicine alone was relied upon the child died.

If our brother doctors will give these little marasmic patients just a little time and attention along conservative lines, they will save them. I hope this will be of some service to some brother doctor. Try the rest-food plan. Build up the child's digestive powers for a short time; then it can go back to its normal diet.

Joseph W. Gregory.

Cisco, Tex.

COPPER SULPHOCARBOLATE

I notice that the sulphocarbolates are becoming very expensive. In order to help dispensing physicians to cut down expenses, I wish to pass on the following bit of information. Instead of using the regular intestinal antiseptic tablet, try copper sulphocarbolate in its place, but in larger dosage than is usually recommended. This copper salt will accomplish as much in typhoid fever as do the compound tablets, is easier to administer, and, besides, very much cheaper, when one considers the size of the dose.

Dissolve three 1-grain tablets of copper sulphocarbolate in a glassful of water, and sweeten with a 1-grain tablet of saccharin, to modify the taste. Give of this mixture a teaspoonful every half hour, day and night, whenever the patient is awake. This and physics are all the therapeutics needed in nine out of ten cases of typhoid fever. Give it a trial, doctor; and do not be afraid of the big dose of copper. I have given this dosage repeatedly to little children, and with none but good effect. I have never had occasion to try a larger daily dose than 3 grains, but should do so if I thought it necessary. The stools quickly lose their odor and assume a distinctly green color after the first few doses.

Of course, copper salts are astringent, so that an occasional dose of castor-oil may be called for. In the present season I'm going to try mineral oil, instead. I should like to see marketed a preparation of copper sulphocarbolate and mineral oil. If such a solution is possible, it ought to be a knockout for the typhoid germs.

I am now trying emetine in a case of psoriasis of seventeen years' standing, injecting 1 grain hypodermically twice a week. Results were noted immediately, and after six

weeks of this treatment progressive benefits are obvious.

Edward G. Rowland.

Oakfield, Me.

[The combination of copper sulphocarbolate with mineral oil is hardly a practical one, since oil is not a solvent of this salt. Also, there are many conditions where the oil is indicated in which the copper is not called for. When both remedies are required by the same patient, the most satisfactory plan would seem to be to dissolve the copper sulphocarbolate in a little water, adding the solution to a good emulsion of the oil, in the quantity and proportion needed to meet the indications in the case in hand.

Emetine has proven successful in some cases of psoriasis, but not in all. However, if such a case resists treatment—and it usually does—the alkaloid should be given a trial.—Ed.]

THE CONTROL OF NASAL HEMORRHAGE: A CASE

You asked me some time ago for my experience with emetine hydrochloride. Here is a case. Remember this, that I had the nose and throat service at the Northwestern Dispensary for seven years, and the other man, whose name is not mentioned (simply because I cannot get at him and obtain his consent), but whom we will call Dr. C., is now running the principal teaching ear and throat clinic of possibly the largest medical college in our country. Therefore, these remarks ought to carry some weight. When I was telling this story to some doctors, I said, "You must admit that Dr. C. knows how to pack noses." The answer was, "Pack a nose, why that man could pack a nose with his feet. He doesn't need hands to do it." This was apropos of the Doctor's skill with the eustachian catheter, electrode, and so on, which he slides into place like a slight-of-hand performer.

One Sunday morning a 'phone message reached me that Mrs. S. "had a fearful hemorrhage—not any nosebleed, but a big hemorrhage." On account of the alarming character of this message and the distance, in combination with the fact that Dr. C. was a neighbor to the lady, I 'phoned him the circumstances, received his promise to go, and forgot all about the matter, knowing that the Doctor could handle anything with speed and safety. About three hours afterward the Doctor 'phoned me as follows:

"I have seen some nasal hemorrhages (he really has seen a few), postoperative, traumatic and other, but such a gush and flow of blood I never did see till this case. I thought it would kill her. I plugged and tamponed everything, and with everything, but it took me an hour and a half before bleeding was arrested. I never saw such a nosebleed nor even such a hemorrhage outside of the nose. It was like the turning on of a big faucet. However, it is stopped, and I will leave the job of getting the tampons out to you."

In another three hours came another hurry call. I rushed, and can substantiate all that the Doctor said. Without bothering with peroxide, alum, and the like, all of which he had used, I took out all the tampons, which were perfectly in place, and plugged everything, front and back, with styptic cotton—a nasty but efficient procedure—and in this case it did not stop the bleeding. Leaving the tampons in place, because I could not place them better than they were, I injected one ampule of emetine (gr. 1-2) in one arm. That did not stop the bleeding; therefore, I injected the same amount into the other arm, after waiting twenty minutes. That held it. Recovery was uneventful.

Dr. C. purchased a box of ampules the following day; says he means always to have them at hand, but he does not believe that he will ever see another such hemorrhage in which to use them.

Douglas H. Stewart.

New York City.

EXPERIENCE WITH EMETINE IN MUSCULAR RHEUMATISM

Of late, I have given emetine a trial in some cases of muscular rheumatism. These were the results secured:

The first of these patients was a young man, 21 years of age, who had been under the care of another physician for three weeks. He could not move his legs without experiencing severe pain in the muscles. He also was suffering from photophobia. As an experiment, I injected the contents of a 1-2-grain ampule of emetine hydrochloride into his right leg. When, twenty-four hours later, I saw the patient, he reported having spent a restful night. I then injected another 1-2 grain of the alkaloid, this time into the left leg. Within the next twenty-four hours, there was decided improvement in the muscular symptoms; the eyes also were much less

sensitive to light. I certainly was surprised at the marked benefit obtained.

Two days later, another injection of the emetine was made, into one of the thighs. Following this, the patient expressed a desire to get out, because the pain had nearly left him and the congestion of the eyes had disappeared. Three days later he called at my office and received a fourth injection. Since then I have given him one injection a week, and now he is able to go about his business, apparently completely cured.

The second patient was a married woman of 28, who went out doing general housework. When seen by me, she was suffering severely from acute muscular rheumatism, which confined her to her bed. With the previous success in mind, I decided upon the emetine-therapy. I administered 1-2 grain of emetine subcutaneously, injecting it into the thigh. Eight hours later I injected a similar quantity into the other thigh. Three days after that I gave her a third injection, and two days after this, to the surprise of everyone, the woman was able to resume her work. She still is under my care, receiving 1-2 grain of emetine once a week. At present, she feels better than she has for six months past.

The results obtained in these two instances have surprised me greatly. I have been practicing medicine for fourteen years and have encountered numerous cases of muscular rheumatism, exhausting the resources of the Pharmacopeia in an endeavor to find a cure, but generally failed, until I tried the emetine.

A. J. SCHNEIDENBACH.

New York, N. Y.

[We now know that there is a very close relationship between the various forms of rheumatism and pyorrhea. Also, it has been pointed out that tonsillar disease not infrequently is caused by the entameba buccalis. Cases of this kind often respond very readily to treatment with emetine. We strongly urge that in every case of rheumatism the physician institute a careful examination of the teeth and tonsils, and, in case local disease is found, it is worth while to give the emetine a faithful trial—in association, of course, with other indicated remedies. A friend of ours, in New York City, who is acquainted with Doctor Schneidenbach, and has had an opportunity to get in touch with the profession, assures us that emetine is being used in that city in many cases of rheumatism, and with remarkable results.

Of course, thorough elimination is important, while hot baths, epsom-salt compresses, high colonic enemas, a restricted, low protein diet, and remedies calculated to correct hyperacidity all are useful agents.

Why do not more doctors make it a business to "go after" these troublesome rheumatic cases, many of which are to be found in every community? Most of these chronic sufferers can be cured if they are handled intelligently and treated persistently with emetine. You can cure many of your patients, if you only will try.—ED.]

THREE EMETINE CASES

We sometimes think that we are getting "dippy" over emetine. Maybe we are, but when we keep on getting reports of experience with this remarkable alkaloid similar to those printed in this number of CLINICAL MEDICINE, you can hardly blame us for growing enthusiastic. These reports come to us not only by mail, but by word of mouth from many sources. For instance, a traveling man representing a Chicago pharmaceutical house, traveling through Missouri (*der kleine Gross*—you know him if you live in Missouri!), walked into my office today and gave me the following report:

"When I called on Dr. H. G. Savage, Warsaw, Missouri, about the first of April, he told me of a case of hemorrhage from the lungs. The hemorrhage had continued for two days, and three other doctors in town had tried every hemostatic known to them, without any apparent results. I suggested that he give emetine a trial, and wired to St. Louis for a supply. When I came back a few months later, Doctor Savage told me I had saved that man's life. He is out on the streets now, attending to business. About 10 or 12 ampules of emetine were used in arresting the hemorrhage.

"Dr. L. V. Dawson, Odessa, Missouri, told me of the case of a woman who called on him and said that in twenty-one years she could not remember a time when she had not passed blood with her urine. The Doctor examined a specimen of the patient's urine to verify her statement. At the time I saw him he had given her about six or eight doses of emetine and there was hardly a trace of blood to be found. In addition, her general health was very much improved. This woman was about 55 years old.

"Dr. A. E. Hawkins, Monett, Missouri, told me that his wife had suffered intensely with rheumatism for years; she had been the rounds and gone to Hot Springs, without securing relief. The Doctor happened to

recall that she had had a severe case of pyorrhea at one time, and on that theory put her on emetine treatment. When I saw him he had given her 16 ampules, and she is now without a twinge of rheumatic pain."

EMETINE FOR TYPHOID FEVER—ANTITOXIN FOR EXOPHTHALMIC GOITER

Allow me to report two cases from practice, one of which perhaps counts for little; still, if every doctor would report his startling cases, we should, from the combined reports, learn much about which we now are left in comparative ignorance.

Once or twice I have seen in CLINICAL MEDICINE a brief reference to the use of emetine in typhoid fever. I had such a case recently, and tried emetine, administering hypodermically one ampuleful daily. The fever stood at 102.5° F. at my first visit, but on the fourth day the temperature was down to normal, and remained so. The patient resumed work on the tenth day. The Widal test was positive; all other symptoms were typical. Of course, I also pushed the combined sulphocarbolates and copper arsenite. While I am accustomed to see my typhoid-fever patients recover in from ten days to two weeks, this experience, nevertheless, was an "eyeopener."

Here is another idea. A number of years ago, Doctor Legge, of McCloud, Colorado, stumbled upon the fact that a patient having exophthalmic goiter was cured of this after having received diphtheria-antitoxin for an attack of diphtheria. This observation Doctor Legge reported. My own experience gathered since then is, that about 75 percent of those afflicted with exophthalmic goiter, beyond question, are *cured* by (usually) two injections of diphtheria-antitoxin of from 3000 to 5000 units each, given about a month apart. Inject anywhere under the skin, as usual.

A. F. BURKARD.

Omaha, Nebr.

[These experiences with two forms of serious maladies certainly are decided eye-openers. If Doctor Burkard's success in this direction can be duplicated by other physicians, this beautifully concise letter alone is worth a hundred dollars a year to many a subscriber for this journal.

As to the great value of emetine in typhoid fever, I have very little doubt. Look up the May number of CLINICAL MEDICINE and read the abstract of Doctor Frazier's article. I fear that most of us haven't taken that report seriously enough. Right now we want to ask—yes, beg—100, or 1000, of you, to try out this emetine-treatment in the very next case of typhoid fever you are called upon to treat.

Of course, you should not neglect the use of the sulphocarbolates and other indicated remedies. It is the physician's duty to do the very best he can for every patient he is treating, and up to the present time the sulphocarbolates, in the opinion of some thousands of us, are the best remedy for this disease at our command. But, then, emetine promises to "go it one better." Try it, all of you, and let us know whether this is just an iridescent dream or in truth another great medical discovery.

The use of diphtheria-antitoxin in exophthalmic goiter most assuredly is a novelty. At first thought, this method of treatment does not seem rational. Certainly, we do not know how it works and have no basis for explaining such action. Still, why should we condemn the suggestion until we have tried it out? Let us hear from a hundred or many more of you on this point.—ED.]

APOCYNUM IN SCIATICA

Not obtaining any success from the usually indicated remedies in a case of sciatica, I decided to try local injections of apocynum. I dissolved 8 apocynoid granules in hot water and injected the fluid at the sciatic notch; owing, however, to the obesity of the patient, I think it was deposited extraneurally. Improvement was marked by the next day, so, repeated the injection. The following day the patient felt better, but, on account of the pain caused by the injections, requested me to let him try the remedy internally. I agreed, and pushed the apocynoid to effect, and the rapid inprovement resulting convinced me that apocynum must exert some beneficial action in sciatica. Tonic treatment also was given. This is my only experience so far.

S. A. BRUNNER.

Krumsville, Pa.

[Of course, a single experience with this remedy gives very little information as to its value. However, the Doctor's suggestion no doubt will inspire some other good doctor to make a trial of this remedy.

We can hardly see the advantage of introducing the remedy hypodermically in this instance, especially since the injections caused

severe pain. There is a possibility that the apocynoid, through its power of extracting water from the tissues, may serve to reduce the local edematous condition all along the line of the sciatic nerve. Of course, this is pure theory, but it will pass until someone offers a better one. Anyhow, if the drug is effective in cases of this kind, we want to know it. Can anyone contribute experience upon this topic?—Ed.]

OUR DEPARTMENT OF EXTENSION

One of the appreciable burdens of physicians is to supply the patient with knowledge which may tend to prevent the recurrence or spread of his disease. Patients are never so grateful for instruction, and never so teachable as when their health is being restored to them by the efforts of the doctor. We believe that the physician who is liberal in imparting the proper information, extends the usefulness and the influence of the medical profession. For this reason, we have inaugurated an educational service to be carried on by physicians among the laity, and which will be known as our Department of Extension.

In order to help our subscribers extend their usefulness and influence, we shall publish each month one or two articles in non-technical English, each relating to some appropriate disorder. These articles are intended for distribution to the doctor's patients. They can be clipped or republished by each physician himself; or, if it will be a service to our subscribers, we will reprint them and furnish them on request in any quantities desired, at a very small cost.

For the present, we shall not publish the names of the authors of these articles; and we shall be glad to receive contributions from those of our subscribers who have prepared such literature. Any suggestions will be gladly received.

SIMPLE RULES FOR THE PREVENTION OF TETANUS OR LOCKJAW

Tetanus or lockjaw is a spasmodic cramping of certain muscles caused by a poison or toxin which is manufactured by tetanus germs, growing somewhere in the body. While usually causing some interference with the movements of the jaw, the disease kills, not by starvation, but by spasm of the muscles of respiration, or by fever and exhaustion.

Tetanus germs may grow in almost any part of the body. They thrive best when introduced from without by a deep wound, such as a nail thrust. The germs may also be introduced into the body by a powder burn in which the powder grains are driven into the flesh, or by a protruding fragment of a broken bone which becomes soiled with the germs and is then drawn back into its natural position. Although the tetanus germs usually grow only in the deep wound, where they were introdused, they produce spasms all over the body, usually beginning in the jaw and throat muscles.

The tetanus germ is found in garden earth, and in manure of cattle and horses; hence wounds received about horse lots or gardens are most dangerous. The germs require from three to twenty days to multiply and produce lockjaw; wherefore there is almost always abundant time to prevent the disease, provided the patient is willing to submit to thorough preventive treatment.

When lockjaw once begins, nothing can stay the progress of the disease till it has run its course. In spite of the most approved treatment, about two-thirds of all persons who have lockjaw die. Some authors report a higher percentage of mortality.

Prevention of lockjaw is usually easy; the cure of lockjaw is difficult or impossible. This disease is frequently caused by the most insignificant wound from splinters, thorns, nails and other pointed objects. The way to avoid lockjaw almost with certainty is to lay open the punctured wound and treat it with antiseptics, using antitetanic serum and such other treatment as the physician may deem wise. This often, but not always, necessitates the use of ether or some other safe anesthetic and, to thoughtless persons, seems unnecessarily severe. In reality the treatment is mild when compared with this horrible and fatal disease, which has a way of stealing from the unsuspecting family the child that is apparently in no danger.

No careful physician will take the responsibility to pass lightly over a nail thrust, however harmless it may appear. It is impossible to state just what percentage of nail thrusts would develop tetanus if left alone, but the percentage is sufficiently high to call imperatively for thorough treatment.

NEW PROBLEMS UNDER THE HARRISON ANTINARCOTIC LAW

The editor of Clinical Medicine invites the readers' opinions regarding the rulings on the Harrison antinarcotic law. Here is my contribution:

Suppose I have a patient, a young man 20 years of age, who has been suffering severely from hip-joint tuberculosis for six or seven years; that at intervals of from one to three months his hip "rises," at which time his pain is excruciating for from one to three weeks; also, that nothing but an opiate will give him relief, rest or sleep. Generally from 2 to 4 grains of morphine then is required in a term of between two and six days; that is to say, until his hip-sore begins to "run," whereupon he gets relief for one to two months, so that no opium is needed. Suppose further that this patient has no money to pay for a radical operation; while, even if so, his condition actually is beyond surgical aid. I have such a patient.

I supply the morphine to this patient, dispensing of it just as sparingly as possible and

only when his piteous appeals for relief come to me. I do not write prescriptions. I am a dispensing doctor. I own and operate a drugstore and there put up my medicines. Of course, I keep accurate records in a book for the purpose, putting down the amount of the morphine dispensed, the name and address of the patient, and the date. However, I do not state the condition for which it is given; I write no prescription. I send enough morphine to this patient (4 to 6 grains) to last him for from four to six days, and not just enough for one single dose or merely to meet his "immediate" demands; for, I well know that he will need at least this much, often even more. Thus I save him the necessity of sending in to me for that day's supply, a distance of six miles out in the country, and myself the trouble of being bothered by these daily visits and recordings.

Then, also, I send to a baby troubled with colic a 1-ounce mixture containing 1 or 2 drams of paregoric. Similarly I send a cough-mixture containing about as much paregoric. I make a record as required by the law.

Again, I have a patient, 12 miles out in the country, who is troubled with severe paroxysms of gallstone-colic. This woman is compelled to have opium at these times. These spells come on at night, and often it is impossible to get help until the next day. She asks me to "fix" her a bottle of medicine, so that she may keep it for the emergency, to use until she can get the doctor. I give her a 3-ounce vial of colic-drops containing 4 grains of morphine, to be taken when she has these spells. I record the same as above explained and as demanded by the new law. But, then, this is not aimed to meet the then "immediate" demands of the patient. Do I violate the law?

J. A. C.

——, Mo.

[Doctor, read the editorial in this issue entitled, "Keep Right on Using Narcotics." The law is not intended to interfere with the doctor's right to practice medicine. When narcotics are indicated clearly, give them, as you have always done. Then make the record as required by the law. Our advice is that such record be made in every instance, no matter how small or how large the quantity of drug dispensed. We can not see how anyone can find fault with the doctor's practice in the cases just cited, at least from an ethical point of view. The word "immediate" is to be used only in the sense that only enough narcotic should be supplied for the case in hand. To condense the matter into a nutshell: Do what you think is right; follow the rules laid down by the Commissioner of Internal Revenue as closely as you can; under no circumstances be duped into supplying narcotic drugs for improper purposes. If you follow these simple rules you will not get into trouble.—ED.]

AND STILL MORE HARRISON ANTI-NARCOTIC-LAW PROBLEMS

Since in your last issue you offer to explain any doubtful points in the Harrison law, I submit two questions, as follows:

1. My son has just been graduated and has joined me in partnership; registering under his own name, of course. Now, since each of us is individually dispensing the drugs needed by his patients, but from our common stock of drugs, must we then register over again, as a firm, under a special, separate number? In recording the drugs dispensed, must each of us record in his own book those that he individually dispenses from our common stock or must we register them in one common partnership record-book?

2. We get many patients from the surrounding country and furnish them the needed drugs. Sometimes such patients call in person to have the prescriptions repeated, giving the number, but others write us, giving the numbers on the containers and ask us to send the remedies by mail or express. Now, inasmuch as prescriptions containing proscribed narcotics are not allowed to be refilled, may we write a new prescription like it, give it a new number, and then send the medicine containing some narcotic, say, syrup of white-pine compound for cough or codeine granules for the cough of a consumptive? Or is it unlawful to send such drugs at all, and must they always be delivered to the patient in person?

I use narcotics very little, avoiding using them whenever I can, but occasionally it is necessary. Will you kindly advise us on these matters? If you publish this in CLINICAL MEDICINE, please omit my name.

C. H. B.

——, Nebraska.

[According to the ruling of the Commissioner of Internal Revenue, not only must each member of the medical firm take out a license for himself, but, in addition, the firm must also have one. When different individuals are using drugs from a common stock, the record keeping certainly becomes

complex. My suggestion is, that, in this instance, all office-dispensing of narcotics be done from the common stock and the records made in the name of the firm. In bedside dispensing, let the attending physician keep an individual record, replenishing his stock from that of the firm, but keeping a careful account of the drugs transferred to his pocket or hypodermic case, or otherwise appropriated. This can easily and quickly be done if each physician carries a narcotic-record-book, using for the purpose the space set aside for the inventory.

The physician refilling his own prescriptions does not fall under the prohibition relative to pharmacists refilling prescriptions. He can repeat the narcotic-containing medicine as often as necessary; but *he must make a record every time he dispenses it.* A recent ruling, however, is directed against mail-order treatment by means of narcotic drugs; but this can not be construed to prohibit the physician from sending a patient actually under his personal professional care any remedies that may be indicated in that particular instance. As we understand it, this ruling is intended to prevent physicians from sending narcotic substances to persons at a distance whom they have not personally seen and examined.

It should be added that under a ruling of the post-office department made about two years ago the mailing of "poisons" is prohibited. The New York manager of one of the largest pharmaceutical manufacturing houses in the country was arrested by the post-office officials for sending through the mails 500 1-6-grain heroin tablets to a firm of wholesale druggists in Boston. While the case was not pushed, the rule prohibiting the use of mails for "poisons" still stands.—Ed.]

LADY NICOTINE AND THE PRINCE

Doctor Bowers mixes so much levity with his would-be argument and contentions that I am in doubt as to how much sincerity he has in his expressed views as well as to the exact meaning and connection of his ornamental phrases.

It may be relevant to the occasion to talk of No. 7 shoes and 6 7-8 hats; but to me, if so it seems wholly derogatory to any defense he might wish to put up that leaves untouched any real allusion to the real points I made against the Prince of Weeds that he prostitutes the word "Lady" to name. For instance, he leaves unscathed my point about setting the smoking-example to the youth of the land as well as to those who are old enough to know better, and, moreover, can ill afford the money for the habit.

I venture that neither his peristalsis nor his nerves would need tobacco had they never been "soothed" or crooned or doped by it, and I also venture that the principal reason why he remains "a mild and moderate smoker" is, because it's a "leetle" too much self-denial to cut the "Prince" altogether and reduce the risk of his tachycardia and other troubles.

A. P. Reed.

Boston, Mass.

[With this rejoinder, we will consider the tobacco-discussion definitely closed.—Ed.]

ON THE FIRING-LINE

The monotony of the sad work that we are doing lately was relieved by a new episode. The constant roar of the cannon, alternating with charges across the line two or three times a week, with the rattle of machine-guns, and then the hurry-calls to pick up the wounded and rush them to the receiving hospital, all this has become a part of our everyday life. The constant thought is: When will it end? But recently this fearful sameness has been broken up by a stream of dark-greenish-looking gas projected from the German side, which, moving with a favorable wind, following along the ground, creeps over our trenches, and, before the men fairly realize it, they are stricken down, asphyxiated. A single respiration seems to prostrate and to paralyze. Some of the soldiers put a handkerchief to their mouths, others fell down, and, if the gas remained a few moments, circulating up and down the trench, almost everyone who breathed it was stretched out, dead, apparently. If the wind drifted the gas away, there was relief; if not, the effects were terrible. The moment this gas was seen, a charge was made and the cannon started up another bombardment; and this for the time seemed to divert and stop a second current of gas.

During this charge, the stretcher-bearers brought in to the receiving hospital nearly 100 disabled and asphyxiated men. It was said that over 20 men were killed just outside the trenches. Those who were brought in were cyanotic, with dilated eyes, and breathing as if asphyxiated. In a very short time, bronchopneumonia came on and usually death followed. The mouth was parched, the throat was congested and intensely red

and swollen, and a series of symptoms that were entirely new to us were present. Oxygen was given in all these cases, with good effect, but the poisoning was so pronounced that prostration and paralysis seemed to be common symptoms. The temperature was 104 degrees, and sometimes higher, and the heart was fluttering and feeble. These men were hurried to the rear as quickly as possible and kept in the open air. We have no knowledge of the number who recovered.

Opinions as to what the gas was vary widely. In all probability, it was chlorine, possibly mixed with bromine. At all events, it was heavier than the air and, when driven along by the wind, it sought out the lowest places and after a while became dissipated. The gas seemed heavy and concentrated, with a thinner fringe on the outside. Those on the outskirts, who breathed a very little of it, felt a sudden pressure and difficulty in breathing; by rushing away and lying down quickly, the effects were less serious and soon passed off. In all probability, the gas was concentrated in tanks and, by air-pressure, liberated in volumes, when it followed the wind-currents.

On this occasion, the allies made a furious attack and drove the Germans back nearly half a mile, forcing them to establish a new trench. At one point near where this gas was driven, at least thirty men died from its effects; while as many more were seriously injured and could not get off the field. The men affected complained of choking, smarting of the eyes, and were seized with violent coughing. The reason for supposing that this was chlorine gas was, that nearly all metals which came in contact with it turned green and black, showing a deposit of this gas.

A few miles from this point, a week or so later, a long, snakelike column of gas or smoke was seen coming out from the German trenches. Instantly two shells were thrown into this cloud and exploded with great force. This drove the vapor-cloud off in midair before it could reach our trenches. The air all about was permeated with this gas for several hours afterward.

The airmen are cautioned to keep a very sharp lookout for suspicious-looking tanks being carried to the enemy's trenches, and a sharp bombardment is directed wherever these tanks appear. Various respirators have been sent by the war-office, to be used in the trenches where there is any suspicion of what are called gas-bombs being thrown across. In the meantime, a vindictive sentiment pervades all the forces on the front, and wherever attempts of this kind are made, violent charges and furious cannonades take place, and in most instances the Germans are driven back.

It is the opinion of persons familiar with gas-tanks that this form of gas cannot be easily handled in trenches that are constantly shifting and exposed to fire. On one occasion, the bursting of two or three shells along a certain trench was followed by a peculiar smoke, which rose from the trench and drifted away. This evidently was concentrated gas that had been intended to be used to prevent a charge that was expected at that point.

The fighting along this line for the last few weeks has been of a most desperate character. The number of wounded has exceeded anything we have ever seen before, and along this particular line an unusual number of surgeons and assistants has been concentrated. Arrangements for the disposition of the wounded indicate that still more fierce conflicts are to come. The censor's orders have suddenly become very strict and no statements of the number of wounded or mortality are to be given out, except through headquarters.

To those on the firing-line, it seems as if the Germans were becoming more desperate and reckless. On our side, there seems to be greater perfection in the discipline, order, and plans of the movement of troops and countercharges that are made. At one part of the line, we have advanced the trenches several miles from where they formerly were, this necessitating a great deal of work, so as to make the intervening space passable. There are vast sections of land that are torn up in all sorts of shapes by shells and trenching, and the difficulty consists in making it possible to move guns and men over this broken section.

Why we haven't made greater progress in driving the enemy back, and why they have so stubbornly resisted, is not altogether clear to our men on the front. Occasionally, it is apparent that want of munitions explains some of the reasons; likewise the inability to return the shell-fire of the enemy. But, when it comes to resisting infantry changes, apparently we are able to cope most successfully with the reckless efforts of the enemy to drive us out. The prisoners we take express satisfaction in being relieved, and all seem to have very little idea as to what progress is being made or what might possibly be accomplished in the future.

It is the opinion of informed persons that, notwithstanding the continuous shell firing and the occasional charges and counter-charges, the mortality among the wounded is relatively very light. At times it does seem to a surgeon to be the very opposite; but, as he is familiar with only a small part of the great stage on which this hideous drama is being played, he cannot form very accurate guesses.

Some months ago, American physicians were seen in the Red Cross service and were anxious to take part actively. Recently the conditions have changed; the Red Cross service is found to be more valuable in the rear, and the young American surgeon who was thirsting for excitement and practice is content to work in some other place. Most of the field surgeons, after a few weeks of service, are replaced, probably, by their own request, and newer members take their places. We who have been in the service a long time realize that the end must come sooner or later, but probably not until after some very severe blows have been struck.

"BRITON."

MEDICAL-LICENSE RECIPROCITY (INTERSTATE)

This "thesis" on the subject indicated in the heading is not a compilation of state laws controlling interstate medical-licensure reciprocity, but is an entirely "personal" production, based on the need of reciprocity, developing ten years after graduation and licensure, by a state priding itself on the high-grade medical graduates it was turning out from the two cities of the state having institutions equipped for such educational work, and all these schools recognized by and members of the Association of American Medical Colleges.

The lawmakers of each state seem to have contested with each other to see which could devise a set of laws best calculated to keep out the doctors educated in other states. To the physician having need or desire to practice elsewhere than in his native state, it seemed every state tried to make a "dog in the manger" of itself. But the necessity of submitting to examination by the medical boards of nearly all states was such a great hardship—on account of the arbitrary exactions imposed, the all too frequent politics that influenced the examiners, or even jealousies toward certain sections—that a great demand developed for reciprocating licenses.

This crying need has been met now, to such an extent that a doctor having a license by examination from certain state boards which hold strictly to certain standards of education and medical training as well as hospital experience, may—on application to and compliance with a great detail of red tape, in the form of affidavits, vouchers, recommendations, the payment of a good-sized fee, and some secret detective investigation of the applicant for reciprocity—at the pleasure of a state board be given a reciprocity-license to practice medicine and surgery, provided the board of the state to be entered will consent to admit to practice those holding its licenses.

The existence of medical colleges of very low grade and of diploma-mills, together with the low requirements of the boards of some states and entire absence of any board in others more than likely led to the putting up of walls of self-defense by several states of the Union, to protect themselves from a large number of entirely incompetent physicians who sought to enter into competition with their native physicians, which latter had attained to a higher standard of medical efficiency.

In late years, the standard of medical education and training has been greatly increased, systematized, and adopted by the majority of the states of the Union. Medical colleges have been either consolidated, abandoned, or brought up to the standard, until at the present time the graduates of medical schools and colleges are a much higher, a more uniform class of physicians, thus making it possible for a large proportion of our states to issue reciprocity-licenses.

This change has been of untold benefit and convenience, not alone to medical men, but to their wives and children and relatives, enabling them to seek health and happiness where it may be found, at a minimum of expense and inconvenience.

To possess a license by examination in one state today, enables the holder to gain admission to as many as 24 or 26 different states, on a payment of a fee ranging from $15.00 to $50.00 and furnishing credentials, photograph, and sworn identifications.

The legislatures of the states enjoying reciprocity have empowered their boards of medical examiners to reciprocate with states holding similar standards, at their discretion, and also authorized their boards to make such rules and regulations pertaining to reciprocity as they might deem necessary.

So far as is known to the writer, one cannot compel any state to grant him a reciprocity-license.

For those seeking information about the laws governing the practice of medicine in the states of our nation, there is published by the American Medical Association a booklet which gives a digest of all these state laws. This will give one contemplating a change the names of the members (or officers) of the state boards, with whom correspondence may be opened and details learned of what the inquirer must do to gain a license.

One state-board secretary informed the writer that his state would issue a reciprocating license to those only who held licenses by examination in the accepted state, and the applicant's education must cover the ground of a 4-year course in an accredited school, and the papers must not be of too remote date to be acceptable.

If one's mind were as retentive as a phonograph-record, the best way to gain a license would be to take a state examination and have it over with, getting a footing that has no smack of a "gift." Still, there are numerous drawbacks to taking such an examination. They are held only two or three times annually, and at one or several of the largest cities. They are held in various kinds of rooms, such as senate-chambers, college recitation-rooms, school-rooms, theaters, hotels, assembly-rooms, one even having been held in a hotel ball-room. At these examinations one can see and must meet in common test the recent graduate of the home schools, the older doctor who was compelled to pass an examination or quit practice, and the outsider wanting to come in. At these examinations one can see all kinds of men and an occasional woman, all being tested alike, little account being taken as to which would be really safest to trust with the life and the comfort of a patient.

State examinations last from one to four days, from 9 a. m. to noon, then from 1 to 4 or 5 or 5:30 p. m. To a doctor in poor health or actually sick, this is a great hardship, or may be an utter impossibility. The mental labor, even to one in good health and not old, is very exhausting.

To a physician who has given himself a fairly liberal general education and then spent four or five years of the best years of his life, and hundreds or perhaps even thousands of dollars in complying with the very exacting requirements of a first-class medical school, going before his state medical board for nearly a week and submitting to the grilling and probing into his storehouse of medical knowledge by ten or twelve cold-hearted, unsympathetic examiners, besides furnishing sworn proof that he is of "good moral character" seems a maddening experience; and to have to repeat the process just because he finds it desirable to cross the line into another state for the sake of health, business or pleasure, and there establish anew a home or practice seems unjust and unnecessary. The thought comes to him that, if he is competent to practice at all, he is fully as much so in one state as another; imaginary lines on the earth's surface could not change his ability one iota.

Twice within the writer's medical life it has become desirable to move from one state to another, and he has lived through every pain and pleasure of practicing in his home state, and then of taking up a home and building a practice in another, more than 1800 miles to the southwest.

While visiting the great Chicago World's Fair, and again, some years later, the famous one at St. Louis, the writer became infected with a desire to see the wonderful country producing such wonderfully fine things as were shown at these two renowned expositions. Years went by without his finding ways or means to gratify this desire. About four years after marriage, he concluded to make a change of residence for climatic advantages that were needed by members of his family. A study of western and southwestern climates, altitudes, and soils was made, and finally the Texas Panhandle was selected for a new home.

The climate here as a rule is mild; summers long, winters short, sunny days predominating. The altitude of 3600 feet; the abundant soft well-water; the bracing, cool summer breezes; the good, hard, level, smooth roads; the herds of cattle and mules; the great cultivated fields; the wonderful grass; the rich silt loam soil; all seemed to combine to provide a better place to live and a fair location in which to earn a living by practicing medicine among the farmers, stockmen, and cowboys. Doctors were long miles away and charged from $20.00 up per visit.

Having selected a location, the next thing was, to qualify for permission to practice in it. A letter was addressed to the Secretary of the Board of Medical Examiners, State House, Austin, Texas, in care of Governor's Office. The letter did reach the secretary, eventually, but only by being forwarded to his home, about 100 miles from the capital. In this letter the writer told his plans and asked for instructions. After many days, the answer came, this outlining two ways open for qualifying for practice in Texas: (1) To

fill out enclosed form for examination at a city hundreds of miles from the chosen home-site, some six months hence; the fee being $25.00, and certificates of medical education and moral character to be submitted prior to receipt of a card of admission to the future examination. (2) By reciprocation, the favored states being West Virginia, Virginia, Kentucky, and a few others.

At the time of receipt of this letter of instruction, the writer was at the county-seat of the county that was to be his future home. He had to pay board and wait more than ten days while learning the requirements to practice. He had no license in either of the states reciprocating with Texas, the next examination six months away, the family back in western Pennsylvania. What was he to do? The home state (Pennsylvania) was not reciprocating then (1908) with any other state, so the best plan seemed to be to return (1800 miles) to Pennsylvania, take the first examination offering in one of the neighbor states, then, if licensed there, apply to Texas for reciprocity admittance. After returning to Pennsylvania and writing to the secretary of the West Virginia board, the writer learned that the next examination was to be held in ninety days at Huntingdon, that the board would be pleased to grant examination on compliance with the routine requirements of photograph, personal history, certificate of moral character, and proof of graduation from an acceptable school. The regulations complied with and fee of $25.00 advanced, the card of admission was received.

The next step was, to make certain of getting grades high-enough to win the license. Ten long years had passed since graduation; they had been filled with work as found in general practice, away from centers of medical learning. Nearly all leisure had been devoted to study, reviewing, and self-improvement in ways calculated to help the sick and injured; letting all knowledge not helpful, presently or prospectively so, dissipate or stick, as might chance. But now, with the necessity of facing an examining-board so long after leaving college and neglecting much technical and book lore, there came a pretty severe attack of fright, for fear of failure to pass.

To brush up, with the aid of one's library, on all the subjects covered by the impending examination was seemingly a year's task or more, and the question came up, How can one brush up in ninety days to the best advantage? While planning thus, the writer remembered reading a review of a certain book called "State-Board Questions," and he sent to P. Blakiston Sons (Philadelphia) for the book, at $3.00. When it came, it proved to be a compilation of all the questions, without duplicates, used by all the state boards for five years prior to 1909; correct answers by the best authorities on each subject following each question. The careful review and, as far as possible, memorizing these questions and answers proved to be a very quick method of brushing up. Then, also, it gave one an idea of what to expect a board might ask. Incidentally, there was a remarkable similarity of questions by various boards. It must be admitted here that the freshened memory, by reviewing hundreds of other examinations, proved useful beyond all expectation. Then came two days at Huntingdon, West Virginia, with incidental hotel bills and railroad fares. In about a week after taking the examination, a letter arrived, containing a printed announcement that the writer had been successful and that a license would follow by express in a few days. Thus came to pass the first step toward reciprocity with Texas.

The writer now mailed his new license to the Texas board, requesting admittance, to which came the answer that he must get a recommendation from the West Virginia board first. Acting accordingly, he was advised that a $3.00 fee was required. This was sent; whereupon a recommendation to Texas to admit me to practice, supplemented by the agreement to return the favor to holders of Texas papers, was received. With these papers mailed, besides $25.00, the photograph, and sworn vouchers from four Pennsylvania doctors as to the writer's standing in the medical and moral world, there at last came, soon after the first meeting of the Texas board, the long-sought Texas license.

Yet, even all this trouble and expense was not enough! Upon landing at our new home in Texas, in May, 1909, it was learned that the law required the physician's license to be recorded in the office of the county register and recorder, for which another fee, of $1.00, was exacted. Anyhow, at last this victim was ready to give a pill, set a bone or wrap a bandage for anyone willing to take the risk. It was more than six months, from the time the writer wanted to make Texas his home to the time when he legally secured the legal right to make a living therein.

Surely, such experiences as these would convert anybody to the idea of national license or some form of interstate reciprocity, that would not impose such heavy burdens

upon those already bearing more than their own share of life's load. Unfortunately, after three years of residence in Texas, we again found it desirable to move away from among the countless millions of fleas which mercilessly, relentlessly attacked members of our family, and which assaults they, like many other nervous and sensitive persons—preeminently women—could not endure.

E. D. Jackson.

Marseilles, O.

A PRESCRIPTION — AND A MORAL

A woman, from a distance called at my office to be treated for chronic rheumatism. Showing me a prescription, she asked me if I could tell what it was, remarking that several years ago it had been given to her husband's aunt, and a copy of it had been given to many others, who had been cured by it. It called for 4 ounces of sodium bicarbonate, a teaspoonful, in water, to be taken when needed.

My first question was, "Are you taking this now?" She answered in the affirmative and added that she had been taking this medicine constantly for about two years, and that at first she received decided benefit from it, but for the last year or more it had failed to do much good. I asked her as to the cost, and she said that at first she paid fifty cents, but after a few refills, in consideration of the frequency of renewals, the druggist had made a special price, giving double quantity for the same price. What a concession by the druggist!

I looked at her for a moment—she was the wife of a workingman, many of her joints were ankylosed, she was unable to raise her hands to her head, scarcely able to walk, suffering from exophthalmic goiter, had three children to care for, the oldest, a girl of seven years (as she told me), and a fourth on the way, then said that this treatment was doing her positive injury, and, while from the druggist's standpoint the price might be considered reasonable, I would not advise her to continue it; however, if she did, I should suggest that she go to the drugstore or to a first-class grocery and for 8 cents buy a pound of baking-soda or saleratus, instead of paying the druggist a dollar a pound for it. "And is that what it is?" "Nothing more nor less." Gentlemen, draw your own conclusions.

This prescription was from a physician of well-known reputation, residing in a city not ten miles removed from me. This prescription might have been given in good faith, quickly to relieve acidemia, but was it a safe thing to do without setting a limit, or adding a "do not repeat"?

C. H. Randall.

Franklin, Mass.

[Doctor Randall's action in the matter may possibly be open to the criticism that he erred on the side of frankness with his patient; but at least it is the error of a red-blooded man, primarily interested, as every physician should be, "ethics" to the contrary notwithstanding, in the welfare of his patient, and we confess to an equally red-blooded sympathy with his frankness. It is one of the "Outbursts of Everett True." There is altogether too much of such exploitation of ignorant people, under the guise of paternalism, and altogether too much condoning of it by physicians under the justification of ethics.

As Doctor Randall says, the original prescription, given to the original patient, may have been a matter of good faith; and the original filling of the prescription, even at a cost of fifty cents, may have had proper justification. But, by the time the matter came to Doctor Randall's notice, it was somewhat of a hoary-headed abuse, with no justification from any standpoint, and his excusably impatient denunciation did not hurt either the original prescriber or the original dispenser—they were too far removed from the case by that time—but only the ill-advised (to put it mildly) druggist or druggists who perpetuated the abuse for profit. We really do not feel concerned about straining a very fine point in ethics to spare their feelings; especially as no names are mentioned. We print Doctor Randall's communication for just what it is worth.—Ed.]

A CASE OF PUERPERAL ECLAMPSIA

A married woman of forty first consulted me when she was at the end of the third month of (second) pregnancy, when she complained of constant nausea and vomiting, and pain in the lower abdomen. She wanted an abortion performed, declaring that she could not again go through the suffering she had endured during her former pregnancy five years previously.

I found an ovarian tumor on the right side of the pelvis, easily palpated, although she was a very fleshy woman and the uterus low down and rigid. I advised laparotomy,

which was consented to and carried out. The tumor proved to be an ovarian cyst, while the fundus of the uterus was adherent to the sigmoid flexure by a fibrous band the width of my two fingers. The cyst was removed and the intestine freed from the uterus, the appendix was removed, and all wounds were carefully covered with peritoneum, so that no raw surface of any kind remained exposed. There was no more vomiting, nausea, or pain following the operation, the patient recovering rapidly and returning to her housework.

I wish to mention the fact that H-M-C and chloroform were used for the anesthesia, about one dram of chloroform being necessary. This point I wish to emphasize for the reason that the later trouble with her kidneys could in no way be blamed on the anesthetic.

I watched this case carefully and examined the urine every two weeks for albumin, being very anxious to have the woman go to term without further trouble. All went well until the end of the eighth month of pregnancy. Then, one morning, I was called, and was told the woman was in convulsions. I found her, a short time later, just recovering from the spasm. She had not voided any urine for eighteen hours, her limbs, face, and body were swollen, puffed, and dusky. No urine was in the bladder when the catheter was inserted.

Hastily instituting the usual treatment, including hot-packs, she had a second convulsion within an hour, this one being so severe that I determined to empty the uterus as quickly as possible. She was removed to the hospital for this purpose, but before dilatation could be started she had the third seizure, much more severe than the previous ones. The condition now was such that relief must come quickly or I should lose both mother and child. The woman's pulse could not be counted at the wrist and she was in deep coma. So, I determined to empty the uterus. When the patient was on the operating-table, she was catheterized again. About 2 drams of dark, smoky urine was obtained, which, sent to the laboratory and boiled, turned into solid albumin.

The vaginal operation was easily done. The forceps rapidly delivered the child, which was all right, and it was a short matter to clean out the uterus and repair the cervix and vaginal vault. After she was removed to her bed, a solution of sodium carbonate and sodium chloride was administered by rectum, using Murphy's drip method, and giving it as fast as it could be absorbed. Within two hours, she voided 8 ounces of urine. The alkaline solution was given continuously for seventy-two hours, and during this time an average of 8 ounces of urine was voided every two hours. Five hours after removing her to bed she became fully conscious.

The same treatment was continued interruptedly for six days, the albumin having entirely disappeared from the urine by this time. On the tenth day, she (and baby) was taken home and made an uneventful recovery. No other treatment of any kind was used. This was in 1911, and she has continued well ever since.

To my mind, the important feature in this case is, that it substantiates the acidosis-theory of toxemia as a cause of acute Bright's disease, and, surely, demonstrates the efficiency of the alkaline treatment. This being my first experience in using the alkaline solution, while given by rectum, I should now not hesitate to administer it intravenously. I also should watch the degree of urinary acidity, in preference to testing for albumin, to give me warning of impending disaster in these cases.

I also have observed that several hundred analyses in chronic Bright's disease have verified the fact that there is a very marked relation between the amount of albumin excreted and the total acidity of the urine, and I have no doubt that a definite ratio can be established. I am thoroughly convinced that a systemic acid toxemia is the forerunner of all forms of nephritis not due to some extraneous cause.

The rapidity with which the vaginal operation can be performed by anyone familiar with the anatomy of the parts, the ease of delivering the child in this manner, besides the added safety of this procedure to the mother, deserve consideration.

H. McGarvey.

San Francisco Cal.

TREATMENT OF FAILING HEART COMPENSATION IN ELDERLY PEOPLE

The awful distress, the air-hunger experienced in severe forms of advanced heart disease is something that always has appealed to me strongly for my best efforts at relief and cure, and I never could understand the pessimistic ideas entertained by so many doctors about these unfortunate patients; for, there is no other disease that responds more readily to correct treatment or in which the known effective remedies are so few that the treatment becomes almost routine.

Take an extreme case, one in which we find the legs and abdomen as dropsical as well can be, and in which there is rapid and irregular heart action, shortness of breath, and beginning edema of the lungs, as indicated by the expectoration of bloody froth. Now, what can we do for such a patient?

The first indication under the circumstances is, to relieve the sufferer's distress. In general practice, I use very little morphine; however, in this condition, morphine is the best heart tonic in the whole list of our remedies. I employ it hypodermically, in association with strychnine, atropine, and caffeine, as per Doctor Mann's formula, namely: Morphine, gr. 1-12; strychnine, gr. 1-128; atropine, gr. 1-250; caffeine, gr. 1-64. This constitutes an admirably well-balanced combination, of which one may give one, two or three doses to effect, administering one or two doses at bedtime, so as to insure sleep.

The second indication for treatment is, to unload the bowels, using calomel and elaterium. As a rule, I give 1-4 grain of calomel and 1-6 grain of elaterium, three doses an hour apart. When (preferably) given in the evening, the bowels will move freely in the morning. It is well to provide an easy commode-chair for the patient to sit in as long as the evacuations continue, and thus to avoid the weakening effect of the getting up and down.

The third indication is, for direct toning of the heart muscle. Digitalin and apocynin are the proper drugs, and there are no two remedies that help each other—synergize—so much as do these two. I have so much faith in this that I hardly ever give them separately. Usually I start with two each of the standard granules, taken once an hour during the daytime, increasing the dose gradually to effect; the digitalin, until it slows the pulse to near normal, and the apocynin, until it loosens the bowels a little. As soon as the circulation is somewhat improved, I add a general tonic; a dessertspoonful of elixir of pepsin, bismuth, and strychnine after meals is good, or, the heart-stimulant pill of cactoid, quinine arsenate, strychnine arsenate, and oleoresin of capsicum, taken 1 every two or three hours, also is very good.

Six weeks ago I was called to see an old soldier, 79 years of age. His legs were badly swollen and very tense; he was short of breath, so that he could not possibly lie down, hence, got very little sleep. Today, this man was in, and his legs are normal and he is feeling fine; says he eats and sleeps well. For three weeks, he took, every two hours, a capsule containing one granule each of digitalin, gr. 1-12; apocynin, gr. 1-2; and strophanthin, gr. 1-125. Also, one of the heart-stimulant pills. When I first saw him, his condition seemed absolutely hopeless.

So, I will conclude by saying: Don't pass up your elderly heart-patients as hopeless; nine out of ten of them can be controlled, so that they will die of old age, instead of choking to death.

W. A. Marner.

Miles, Ia.

IPECAC AND EMETINE

In Clinical Medicine I often see something about a new discovery—not "Kennedy's," of drugstore fame, of course. In the medical field, it is ipecac or its alkaloid emetine. In my younger days, fifty years ago, I was a student in the office of a country doctor. I then was introduced to Gray's "Anatomy," Kirke's "Physiology," and Hoblyn's "Medical Dictionary," with this added advice: "Study ten pages of anatomy each day, and never go to bed until you know the meaning of every word read. Use your dictionary." After a while I was told: "Look over the drugs and medicines in the office, in the powdered and the crude form. Take the U. S. P. for your guide. Get the medical properties, uses and doses."

Among the crude roots on the shelf, was ipecac, and I never forgot the doctor's advice to be sure to study it. After one year in the office and then a course at old Rush, I was considerably of an assistant in the office as well as in the field.

One morning I was called: "Doctor Murphy, get into the buggy and go with me. You must read early and late now, study diseases and their treatment at the bedside, and learn diagnosis."

During that year, we had a lot of bowel trouble. One morning the Doctor called to me to come along. "We are going to see Andy A., down on the lake."

"Why, Doctor, I heard he was dead."

"Well, we are going to see him."

We found the patient, not a dead man, but still, a very sick man. After looking the patient over, we found he had been sick several days with dysentery and his physician had given him up, with the statement—"No use, he's going to die."

My preceptor directed me to make a moist opium pill—1 grain of soft opium—and give that to the sick man. The Doctor waited about one hour (there were no hypodermics

then), then made up three doses of ipecac, each containing 20 grains. He gave one dose, and told the patient to keep quiet. The Doctor waited another hour, and the patient had not vomited. He gave his directions in plain words, "Give all the three powders."

Once in the buggy, I expressed my surprise at those big doses of ipecac. The Doctor said: "The man may vomit; if he does, he will relax, he will sweat, and he will have green stools."

I certainly thought that he would "relax," sure!

The next forenoon, I went along with the Doctor to see the corpse, but it wasn't a corpse that I greeted; rather, a pretty live corpse; in clean clothes, with eyes bright and clear, the patient was like a new man and well on the road toward recovery.

On the way home, I certainly enjoyed a lecture on ipecac: "Study it," my old friend repeated, "and it will never disappoint you in any disease."

And I most certainly followed that advice. I studied ipecac, and I prescribed it in minute doses and in heroic doses. Then came the hypodermic squirt, to take the place of the "pil. opii."

Then, about twenty-five years ago, I received a small volume of THE ALKALOIDAL CLINIC. I ordered a 12-vial case of the alkaloidal granules and carried it in my vest-pocket at all times, until one time Doctor Abbott took it out and gave me a new one in exchange. (Thanks, Dr. A.!) During these twenty-five years, I have studied the small granules carefully and threw away the old-time pills and powders. Of course, I used emetine or emetoid. I studied it carefully—and here comes the joke on Murphy.

For many years, I have been a victim of eczema. My friend, the late Professor Hyde, cared for me; in fact, I made an appointment to meet him at his office at 9:00 a. m. I traveled 800 miles to see him. Hyde was there one minute before nine; Murphy at 8:45.

Last year, my eczema got worse than ever. I was a fright to behold; dressed with groans and a palm-leaf fan. My daughter hustled me off to Chicago. Doctor Ormsby was gone, but this time Dr. Frank Waugh cared for me. Doctor Waugh wanted to send me over to the Presbyterian Hospital. I remained in my room, though, and I got relief.

Now comes the joke. During March, I had quite a cough. I took for my cough eight granules of emetine, gr. 1-64 each, every twenty-four hours; some days more. My cough was relieved; but also, strange to tell, my skin improved *pari passu*. The warts on my hands and my face smoothed off; the other day, the last one of them peeled off. In passing, I must say, that the warts had been diagnosed as carcinoma, beginning in the glands of the skin (Hektoen and Senn). I have had three surgical operations for removal of diseased tissue.

And one more joke. I have had dysentery since the late uncivil war, but have been free from it for now a year. What caused the change? Emetine, to be sure! I let the granules dissolve slowly in my mouth, for it is also good for my teeth.

Now, gentlemen, don't use emetine for a fracture of the femur; but use it for children's cough, and see how it produces exosmosis into the bronchial tubes; see the little one breathe better. For a child's emetic, I still use ipecac—old-fashioned syrup of ipecac.

Do not, though, call emetine a specific. There are no specifics in the broad field of the medical domain. Study the materia medica and therapeutics. Also, mix your own colors with brains.

T. C. MURPHY.

Pass Christian, Miss.

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[We shall have to disagree with Doctor Murphy on one point—emetine *is* a specific. It is specifically curative of amebic dysentery, just as mercury or salvarsan is curative of syphilis; quinine, of malaria, and antitoxin, of diphtheria. That statement does not imply, of course, that any one of those remedies will cure in every instance. Furthermore, emetine is a specific for pyorrhea; still, it will fail sometimes in this disease, provided it is not used skilfully, if other indicated remedies are not employed, or if the teeth already are ready to drop out.

But, Doctor Murphy is right in another respect: emetine has other uses *almost* as important as the preceding ones, and which should not be overlooked. For instance, in small doses, "frequently repeated," emetine is one of our best expectorants. It will stop hemorrhage, given in 1-2-grain dosage, hypodermatically. It has proven effective in cases of psoriasis (especially when there is associated pyorrhea), and, Doctor Murphy tells us that in his person it arrested the eczema and caused his warts to peel off. Another correspondent writes us of a cure of a case of asthma, but he fails to tell us whether the patient was also suffering from pyorrhea. And I have just received a letter

from Doctor Burkard, of Omaha, (printed on page 862 of this issue), supporting Frazier's claim, that 1-2 grain injections of Emetine hydrochloride will control typhoid fever.

Has there ever been a more brilliant illustration of the superiority of the alkaloid over the galenical? Ipecac was introduced into Europe about 1625, and even then was vaunted as a specific for dysentery. But, it was an awful remedy to take; people wouldn't "stand for" the fearful nausea it occasioned, and, so, it fell into disrepute. Then, three years ago, Rogers, of India, decided to try the alkaloid, and that step worked a therapeutic revolution, leading to new adaptations heretofore undreamed of.

By the way, who has tried emetine in cancer? Since we published our note concerning that use, one physician at least—Doctor Ross, of this city—has given it in one case, if not in more. The Doctor tells me that the results obtained during the first two weeks were exceedingly striking—he thought he had found a real "cure"—then, however, the patient grew worse! Still, the first benefit was remarkable, and others should follow the "lead." Doctor Murphy's "warts" certainly yielded quickly.—Ed.]

PHOSPHORESCENCE IN A WOUND

Man, laborer, 45 years old, native of Pennsylvania; farmed most of his life; lived in Florida two or three years, truck gardening and boating; health always excellent; old pioneer American stock; habits fine, neither drinks nor uses tobacco; never had any venereal disease or scars or sores. Personal history: usual diseases of childhood, none very severe; weight, about 150 pounds; height, 5 feet 9 inches; general physical condition fine. Family history, negative.

Six months ago this man had a fall and bruised his arm near the insertion of the pectoralis-major muscle. A deep abscess slowly formed in the fibers of the muscle, which opened slightly and discharged serum and pus. I made three deep parallel longitudinal incisions and established free drainage. I dressed with gauze moistened with saturated solution of boric acid. About one week after the operation, the patient came to me one evening, saying he had not slept the night before, because of the phosphorescence about his wound. Turning out lights, after taking off the dressing, I found that the bandages, and the serum and blood from the wound, even the clothes near the wound gave off an extreme phosphorescence, so strong, in fact, that it cast a shadow two feet away from the wound.

I cleaned the wound thoroughly and put on the same application as before. (Saturated solution of boric acid.) The next day and the day after there appeared no more phosphorescence.

I made a thorough investigation of the circumstances, but could find nothing to account for this peculiar phenomenon. The wound seemed to be slowly healing, but had somewhat the appearance of a broken-down sarcoma. The man left before I could verify this tentative diagnosis. I do not know where he is at present.

Robert Schlernitzauer.

Cocoa, Fla.

[A curious case. I referred it to Doctor Biehn, and the first question he asked me was this: "Does this man live near salt water?" You see that he does, and his occupation gives the key to the enigma. Probably this was a case of secondary infection with the bacillus phosphorescens; remembering, though, that there are numerous other photogenic bacteria. Most of these bacteria are found in sea-water and grow in sea-water gelatin or on dead fish. They are occasionally found in putrefying meat as well as in the decaying vegetation of swamps. The Florida climate is very favorable for their development. This writer remembers seeing the whole surface of a small tide-water in a Florida river lit up like a sheet of flame by phosphorescent light rising from a school of fish which had been driven up this stream, probably by sharks or other large fish. However, secondary infection of a wound with these bacteria is very unusual. This writer can recall no reports of similar cases. If any of our readers have had similar experiences, we shall be glad to have them reported for publication.—Ed.]

WHEN THE KEROSENE ENEMA "WORKED"

The July copy of Clinical Medicine has just been received and I have been quite busy going through it carefully from cover to cover. My attention is particularly attracted by Query 6016—"Fecal Impaction," where we are told that the patient died because the doctor in attendance was not just sure how to use the kerosene as an enema. This unfortunate occurrence goes to show that this excellent remedy should once more be thoroughly discussed, so that there may be

no further occasion for doubt about the value of kerosene in fecal impaction—at least so far as the readers of this journal are concerned.

I will give you the history of a case in which kerosene worked after everything else tried had failed.

The patient was a farmer, 39 years of age, using tobacco and alcohol in moderation. Within the past ten years, he had had various attacks, from time to time, of bowel trouble, which, from information gathered, appeared to be mucous colitis; some of the attacks having been so bad that he lost control of his sphincter, so that he involuntarily soiled his clothing, sometimes even when he was at work in the field.

This man had attended a dance one cold night, had become the worse for liquor and had become ill and was obliged to send for his doctor. The doctor found him with stomach badly deranged, his bowels badly constipated, and altogether he was a very sick man. The doctor left medicine for the stomach and also for the constipation.

The medicine was taken as ordered, but there occurred no bowel action, the stomach did not get better, the abdomen became swollen, tympanitic, painful, and there was nausea and some vomiting. A hot-water bag applied to the abdomen afforded some relief. The doctor was again called. He tried to administer an enema, but did not succeed. Then he introduced "some long fine silver instrument" (patient's words) a few inches into the bowel, which hurt badly. The doctor then called the patient's father and mother and told them the trouble was cancer, and nothing could be done; that a few days would end it all. Then he departed, without leaving any medicine, not even anything to soothe the pain.

The next day the patient's father met some friends, and as a result of the conversation I was called upon at my office for something that at least might check the fearful retching and vomiting. I gave them 8 nausea (plain) tablets, consisting of bismuth subnitrate, 2 grains; cerium oxalate, 2 grains; cocaine hydrochloride, 1-12 grain. I thought that this might ease the patient during his few days of life. I was called a few hours later, the messenger saying that the tablets had eased the patient. Although thinking that it was almost a useless errand after what the other prominent and experienced doctor had diagnosed, I finally took my No. 8 case of active principles and drove to the house, 5 miles distant.

I found the patient sitting in the dining-room, with his friends around him, as if it were a wake. He had a hot-water-bag on his abdomen, for he was in constant pain. After getting what information I could, I had him lie across a bed and began to examine, massaging the abdomen and at the same time making deep palpation, trying to locate the obstruction. I finally decided that I would try the John D. Rockefeller remedy. I found in the house a 3-quart fountain-syringe, also a hand-bulb enema-syringe. So, I decided to get busy.

When they had brought the kerosene-can, I poured a full quart or more into the fountain-syringe and then suspended it above patient's bed. I placed the patient in the knee-chest position, with pillows placed under his chest for support, and then began to try introducing the kerosene. It required one hour and five minutes to get into the man's colon that quart of kerosene—that ordinary coal-oil, lamp-oil or whatever you wish to call it, bought at the hardware-store at around 15 cents per gallon, the kind of which our good mothers so often took a teaspoonful from the table-lamp and gave baby for the croup.

I might state here that I had hung the syringe the full length of the rubber tubing (5 feet) above the patient, while several times during the procedure I tried to hurry matters by squeezing the rubber fount, thinking that the pressure might hurry matters. [It won't.—Ed.] By the way, the kerosene ruined the rubber bag, so that it cracked very badly in many places. [Kerosene quickly ruins rubber goods, but this outfit probably was old, and badly rotted.—Ed.]

When the kerosene had been introduced, I gave the patient a dose of 3 tablespoonfuls of magnesium sulphate in half a pint of hot water, then left him undisturbed in bed for thirty minutes. I now prepared an enema of yellow laundry-soap dissolved in hot water, adding to it 4 ounces of magnesium sulphate and 2 ounces of glycerin.

I inserted the hard-rubber rectal pipe from the hand-bulb syringe and tried to introduce this soapy solution (patient in knee-chest position), but used up the first basinful mixed, without making much headway. I then prepared the second enema and cut a piece off the rubber tubing, 6 inches long, and shoved the hard-rubber rectal pipe into this, then inserted the 6 inches of this tubing into the bowel. Then I began to pump. I used up this second lot without making much progress, so, prepared a third lot.

I now cut a 12-inch piece of the tubing and shoved the rectal pipe into this (discarding the 6-inch piece previously used), lubricated this with glycerin [Fat is better.—Ed.], and inserted this its full length of 12 inches. (Very difficult to introduce, owing to the narrowed passage. Had an assistant mildly press the bulb while I was shoving, so that the water would aid in ballooning out the bowel.) I introduced this third solution, but without much result. I left the patient for ten minutes now. Soon thereafter he felt some sensations and tried to empty the bowel, but, although straining very severely, he passed very little.

I now prepared a fourth solution. I also cut a piece of the rubber tube 36 inches long, lubricated, and inserted the full length into the colon in the same manner as with the second. Did anyone say "Impossible"? Yes, sometimes, if the tube doubles. But, when I put in the half-basinful of number 4 solution without its coming back, I say it is not impossible. Again, I left the patient for about ten minutes, when he began having symptoms as if his bowel might soon work. Soon rumbling and gas started, and in about fifteen minutes his bowel was working freely, the nurses being kept quite busy. The cleanup was so thorough that the patient almost collapsed. (A reminder, always to guard the heart by giving a stimulant in such cases.) Needless to say, the patient felt better at once after such a relief. He was at my office in a few days, saying that he was feeling quite well.

I will not finish the history of this case, as all we are concerned with here is the kerosene enema—whether it is safe and will work. What I have written should satisfy anyone as to that. Another important thing in its favor is, that it is soothing to the patient and will not cause any pain or smarting, not even if the bowel be inflamed. I have used kerosene, without its producing any unpleasant sensation, when even plain hot or warm water would cause intense smarting and pain.

N. B.: Better carry a quart-bottle of kerosene (colored, to disguise) with you, or it will become a lay remedy.

M. G. Rigney.

Peterboro, Ontario, Can.

[This certainly was heroic treatment, and Doctor Rigney is to be congratulated as to his success in clearing out that feces-laden bowel, especially since there was (as the doctor explains in a personal letter to the editor) an obstruction which made the treatment exceptionally difficult and perhaps somewhat dangerous.

The kerosene enema is not used as much as it should be. As the doctor explains, it is not irritant when properly used, and any careful physician can employ it with perfect safety, the one essential being to see to it that it is finally recovered in the stool.—Ed.]

TURPENTINE AND IMPETIGO

Here is a suggestion which came to us by word of mouth from a doctor who has been using the following method of treating impetigo with very satisfactory results. He got it from an old country practitioner who found it a "sure shot" in a case of this kind which the city doctor (our friend) was unable to relieve. The remedy is oil of turpentine—nothing more. It is swabbed on with cotton, the applications being repeated every two or three days according to indications. Our doctor friend says that it cured after failures with x-ray, white-precipitate ointment, ichthyol, and other common remedies.

SUMMER-RESORTS AND SANITATION

As we become more and more a race of cliff-dwellers, the necessity of a summer outing becomes more manifest. We are developing the community-village system of the Mayos, not for purposes of protection against enemies, but for economy of space and the possibility of reaching quickly the centers of the huge aggregations forming our modern cities. The unnatural life thus forced upon the children and their mothers surely results in a deterioration of health, a reduction of vitality. The citizen does not establish his race in the city; and it is said that, even in as ancient a settlement as London, it has not been possible to find a single instance in which the fourth generation has been born within the city limits. The teeming urban population comes from the country. Can any reader tell us of a case where son, father, grandfather, and great-grandfather have been born in any of our great cities?

Reversion to primitive conditions is not devolution, but a tendency innate in humanity. When a man does not care to relax from the strain of modern conditions and go fishing or camping or hunting, there is something wrong, something abnormal about him. He is contemplating "treason, stratagems and spoils," and is to be shunned by every rightminded person.

We stagnate, suffocate from close crowding. The land is getting too full. The game is extinct or else closely protected. The fish do not bite as they once did—they, too, are becoming scarce. Reversion to the hunter-stage of race development is becoming an impossibility, except for the very rich, to whom distance, time, and railway-fares are as nothing. Ordinary man may sit on the wharf in the sun all day long and may-be, with good luck, carry home a string of measly perch. Still, he has had a few hours of quiet medi—no, vege-tation, and is benefited thereby.

The unspeakable resorts! The farms are crowded, get their vegetables out of tin cans, their eggs and fowls from cold storage; their meat is salty, ham is stringy, coffee awful; the flies and mosquitoes afford plenty of exercise; the well is polluted, and the victim who sought recreation gets typhoid fever instead.

Must the summer vacation become obsolete? Not for many a year yet. Right before our eyes stretches the great lake, with more than 800 miles of shore-line, dotted with thriving towns, generally of notable salubrity, the intervals mostly unoccupied, stretches of sandy shore, well covered with trees large enough for shade. Here one may satisfy the craving for change and enjoy a part at least of the life of the pioneer—he may clear, dig, cultivate, build, plant; create and beautify a real home, his very own to do with as pleases him.

He begins by cutting out the dead brush and the trees he does not want to keep, trimming off dead limbs, transplanting well-shaped specimens to better locations, bettering the view, building a shack, planting vines about it, adding porches, preparing a garden, realizing the novel experience of vegetables fresh from his own soil. He varies this by the daily swim in the lake, by stopping to gather wild berries, mushrooms or fruits; cutting and sawing firewood, and a hundred other things that constantly arise. Vary monotony by fishing? Really, one never has time to fish, and there is no monotony. One works from early morn to dewy eve, works hard; yet, the only thing that tires one is trying to decide what to do next—there are so many things one wants to do right away.

This is the real vacation, one that puts the nerves in tune, the digestion straight, the sleep profound and restorative.

Where to go? *N'importe*—it depends upon your purse. If you prefer the *hoi polloi*, rather like the crowds who take dollar excursions with beer galore, just cross the lake. If you have the scads and the wife has diamonds to display or daughters to settle in life, betake yourself to the far north—Petoskey, Charlevoix, Mackinac. If your own vacation time is limited to a week or two, the Wisconsin woods and lakes offer many allures. But, if you wish to locate the family within reach for a week-end visit from yourself, choose a halfway station, reachable by Saturday-afternoon train or boat.

Michigan has awakened to the importance of the summer-resorter and the necessity of satisfying his needs. She can not afford to have him contract disease while in pursuit of health and, consequently, give her a knock. The state board of health has devoted the May number of its bulletin, *Public Health*, to the summer-resorts and how to keep them healthy. The rules recommended are so good that we reproduce them here:

RESORT SANITATION

The following rules must be observed by cottagers and visitors at all Michigan summer-resorts:

CLOSETS

Where there is no water or sewer system, the dry earth closet should be installed. This should be so constructed as to provide for a watertight can or bucket which fits tight against the bench and will be covered by a self-closing lid. Sufficient dry earth should be applied to completely cover the contents of the can and to absorb all liquids. The contents should be removed and buried at least once a month during the resort season, and oftener if necessary.

GARBAGE AND SEWAGE

Garbage must not be thrown into the lake. A garbage-can or barrel with a fly-proof cover should be used at each cottage. The contents should be removed two or three times a week and buried at least one foot under the ground. No pits into which garbage is being dumped will be tolerated, unless each quantity of garbage is immediately covered with at least three inches of earth. The burning of garbage in bonfires is so seldom effective that it is not to be tolerated.

Throwing tin cans, bottles or other rubbish and refuse on the beach or on the grounds is prohibited. A covered barrel or box should be placed at the rear of each cottage for receiving such refuse, which should be removed to some suitable place and buried as often as may be found necessary.

Cleaning fish upon the beach is strictly prohibited. It should be done back and away from the cottage and the refuse immediately buried.

Refuse from lunch-counters, lemonade-stands, pavilions and other concessions must be treated as garbage and disposed of accordingly.

Throwing refuse of any kind into the lake is strictly forbidden.

The emptying of drains or sewers from sinks, toilets, closets, etc., into the lake is strictly forbidden.

The relation which insanitary conditions bear to the breeding of flies should be carefully considered, and no material in which flies would have an opportunity to breed should be exposed.

Violations of the foregoing regulations will give rise to the establishment of nuisances which are detrimental to public health, and violators will be subject to the law relating to the maintenance of nuisances.

The local boards of health are asked to enforce these regulations.

By order of the State Board of Health.

J. L. Burkart, M. D., *Sec'y.*

Enforcement of these rules will make the Michigan shore and its inland resorts the playground of Chicago's summers. Let people once appreciate the dangers of the ordinary unsanitary resorts, and the fact of correct sanitation will make any place a success; much more, one that combines so many advantages and pleasures.

W. F. Waugh.

Chicago.

A PRESCRIPTION FOR WHOOPING-COUGH

In whooping-cough, when the paroxysms are severe and often, I have found the following to act well in almost every instance in which I have tried it:

Specific conium (Lloyd's)	m. 20
Specific belladonna (Lloyd's)	m. 10
Deodorized tincture of opium	m. 40
Sodium bromide	drs. 3
Water, enough to make	ozs. 2

For a child from three to five years old, give 1-2 to 1 teaspoonful every two to four hours, as needed. If it is thought best, in some cases, the deodorized tincture of opium may be left out.

L. J. Graves.

Leighton, Ala.

BICHLORIDE FOR ABORTING A BOIL

The treatment for aborting boils, as recommended in Clinical Medicine and also in *The Journal of the A. M. A.*, leads me to think that it is not generally understood that every boil, carbuncle, and case of paronychia always results from an infection through the skin, and that it can be aborted by means of a solution of mercury bichloride. Boils usually start around a hair-follicle, paronychia follows in the wake of a hangnail. If a compress wet with a 1 : 1000 bichloride of mercury solution be kept over the lesion for a few hours at the beginning, either of these sores will be aborted, and if they have more of a start they will get no worse. This is based on several years' experience.

E. Smith.

Lawrence, Kan.

COPPER ARSENITE IN SUMMER COMPLAINT

Regarding the treatment of summer-complaint of children, let me say that, if doctors would use more copper arsenite in these summer-diseases, their losses of the dear little ones would be 50 percent less. This drug works like magic in my practice—stops the pain and that awful straining and frequent call to stool. Just try it. Give 1-500 grain, dissolved in a teaspoonful of water, every hour. Its action is quick and sure.

W. S. Cline.

Woodstock, Va.

"THE WESTERN MEDICAL TIMES"

Our good friend Dr. Geo. L. Servoss, who is an enthusiastic alkaloidist and a mighty good "scout" from every point of view, is now Editor in Chief of *The Western Medical Times*, formerly known as *The Denver Medical Times*. *The Times* is one of the livest publications coming to our desk. It has a big territory, covering, as it does, the Rocky Mountain region. Under its new name, it gets a broader field, while under the editorial charge of Doctor Servoss it promises to become a power in that section.

If you are not familiar with the journal, write to the publishers at Denver, Colorado. The editor's office, where Doctor Servoss can be reached, is at Reno, Nevada.

PICK-UPS FROM HERE AND THERE

During the cotton famine of 1880, the women workers were idle and nursed their babies; of whom the mortality fell one-half.—T. N. Gray, *Pediatrics*.

During the siege of Paris in 1870–1, the supply of milk being shut off, mothers had to nurse their own babies; and the mortality of the kiddies fell from 33 to 7 percent.—Gray, *Pediatrics*. (What a hardship for the women!)

J. Epstein (*Pediatrics*) asserts that in infantile pneumonia drug treatment comprises catharsis, diuresis, diaphoresis, and cardio-respiratory stimulation. At least, that seems to be all he knows about it. Really, do the heart and lungs always require stimulation? Never sedation?

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, *A. M., M. D.*

EVERY doctor should take a vacation of at least two or three weeks every year. You can do better work and have more influence with your patients if you will get out of the atmosphere of sickness now and then. For nearly two years, I had daily listened to the complaints of chronic invalids, until I was rapidly becoming a nervous wreck; so, one fair July morning, I left Mudlavia for a three weeks' vacation, part of which I was to spend motoring through the Adirondacks and the Berkshire Hills with a good doctor friend of mine.

Before leaving for the East, I visited Doctor Abbott and the editorial staff of THE AMERICAN JOURNAL OF CLINICAL MEDICINE. While there, Doctor Burdick requested me to send him some poetry with my next contribution. I don't see how I could attempt anything but poetry after such a glorious experience as I have just had. Every bit of forest I entered and every mountain-stream I crossed filled my ears with poetry and music. Nature tuned the woods and streams as she did the singing of the winds, and there is no complaint of flatting or sharping, there are no defective tones—only music, music, music! Music and poetry are recreations for a contemplative man and, I think, are best enjoyed alone in the silence and shadow, for, they are the language of the emotions and are to be understood more by them than by the intellect.

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How wise we were to turn north at Scotia, leaving the Mohawk Valley and its busy towns for the Adirondacks, rather than to motor through the Catskills to New York! We wished to get away from people and city marts, to drive into the country as God made it, nature as yet unspoilt by the entrance of greedy man, who robs and changes it and fills it with all kind of abominations; we sought the mountains still covered with virgin forests, their streams untainted and their winds uncontaminated with the scent of defiling drains and waterways.

Both of us were tired and sick of people and telephone calls; of city lights and noise and the ceaseless waltz of events; we desired the rest that lurks in clover-blossoms and shadow-haunted woods. And we got it! As for me, what my inner self demanded at that time was not to be found among men or, if found, was there in such small proportion, as compared with the mass of alloy and undesirable material from which it had to be extracted, that I felt it to be false economy to quarry longer in the world of cities.

My companion thought much the same as I did. So, we searched for and found a quiet, peaceful country, dimpled with dells and covered with hills, starred with waters and fringed with forests, a place where I felt as if I should like to build me there a nest of slience and there remain ever young, and where, when death should come to me, I'd have no funeral, nor crape, nor mourning friends, but just be laid away in the forest under the green-fronded ferns. And, my grave never would be neglected in such a spot, for kind Nature would not allow it to grow unsightly; she would add coverings of mossy green from year to year, and she would appoint her choristers from the leafy belfry of the woods to keep the chimes ringing when the days were long and slow, and to light her tapers nightly in the wavering shimmer of the stars.

Think of it, doctor! Don't you want to lock your office and go fishing or drive up into this north country, where you can catch the tonic of air like wine ever so delicately chilled with ice, where there are lakes, like gentian-flowers, fringed with horizons fine as silk? Here there are no moans of invalids, no querulous complaints, no din of city streets, no honking automobiles nor shouts of profane teamsters; but, instead, the air is musical with the soothing murmur of the pines and the songs of wood-birds, and here and there, echoing o'er the wooded hills, clang the bells of grazing herds. There is no need for disinfectants and deodorizers here; the only merchandise these mountain-breezes carry is the perfume wafted from balsamic woods and daisied meadow-lands and now and then

from an old-fashioned flower-garden by the roadside.

Had you driven with us, one night, from Luzerne to Lake George, the thought of returning to your work in the city, with its misery and its bustle, would have been like the thought of Tophet to the poor little peri, for whom the gate of paradise had swung open. The rim of the moon, a week from full, half hidden by drifting clouds, topped the beechwood by the way, then slowly the three-quarter circle swung clear of the trees, sending a rippling play of silver along the road, while from somewhere in the forest's depths a lone feathered songster in its sleep dreamt forth a bar of liquid music.

It was a night of waning lights, that half concealed and half revealed the beauties of the drive. Let others rave about the glory of the overfull harvest-moons that drip with luscious splendor, but give to me the tender reserve of a moon from which time has stolen something of its youthful excess and meridian completeness, leaving a chastened beauty in its stead, like a smile on a face that has been washed by tears.

I don't know what my companion's thoughts were, for he was silent; we both were silent. As for me, my soul went wandering off into paradise and forgot awhile its environment and its earthborn responsibilities. What a ride this would be to take with a woman—the one woman of your life! But my sweet half-dream was shattered by the very masculine voice of the friend at my side: "Here we are at the Fort William Henry Hotel." And I found myself back to earth, blinking in the glare of electric lights where people stood around, and among them the usual number of artificial women and "boob" men. For, we were back in civilization again.

One can easily forget the people about him when looking down Lake George. Is there, I wonder, in the United States a more beautiful lake than Lake George? Was ever a bluer day than that which folded this lake's blue waters in its soft embrace the time we bade adieu to its shores and started on our way to Scroon Lake? Was ever a world so blithe and beauty-laden? Was ever a battle so closely drawn as that between the haze in the air and the foliage on the trees? And such trees as graced both sides of the road! What a procession of changing charm and meaning! Summer is the trees' furlough, and now they were all in their best robes. Was there ever anything more poetical than the tracery of the branches of the elms; or any pictures more beautiful than the cameos on the beech-trunks; or anything more rugged than the snarly gnarliness of the oaks? Words are weak as tears when they essay to tell an oak-tree's epic. Was there ever anything more pensive than the graceful droop of the willows in whose shadows the summer winds seemed prone to fall asleep or loiter idly? Was there ever anything more stately than the pines?

I wish I could picture to you all the beautiful, majestic trees we saw. I wish I could describe to you the picturesque road from Scroon Lake to Ticonderoga; the spot where a pair o' does stopped entranced for half an hour viewing Paradox Lake, lying like an opal in a dark setting of hills shadowed like oxidized silver. How can I fitly describe the gems of mountain-lakes we saw, some of them resembling translucent sapphires, over which mists hung like gossamer webs—and all in settings of the richest emerald! Such entrancing scenery as we had—a pathway ever changing all the way to Ticonderoga, down through the Green Mountains of Vermont and on into the Berkshire Hills of Massachusetts—beautiful Berkshire where, as a youth, I spent many happy years!

Can I ever forget the view we had from a mountain in the Berkshires! We motored slowly up the winding macadam state-road, came to a spot where we stopped spellbound on the crest that swept the whole countryside, from the blue hills on one side to the bluer ones that hovered like sapphire clouds on the other. Meadow-lands snow-white with daisies drifted between, and soft-bosomed lakes ruffled by crimpling winds spread out at our feet. Far away the farmers were harvesting hay, and the landscape was dotted with dimpling hills that freighted each puff of wind with a sweetness born of sunshine and shower. And, to make the inconceivably lovely picture seem even more complete, if possible, a wood-bird—a thrush, mayhap—in the woods back of us broke the silence with a song. Four notes it sang, four notes of white sound as pure as flame, then it broke into a liquid bubble of melodious water, all transparent, translucent, the apotheosis of song. Then a thrill of ecstacy possessed it, and cadence followed indescribable cadence, as if the unheard voice of all nature was incarnated. Then, quite suddenly, the song ceased altogether, and there was but the soft

rustle of the forest-leaves—and the glorious view!

Ah, doctor, how can I ever thank you enough for this wonderful experience, for which I am indebted to you?

Of course, I visited the home of my youth, that serene retreat that I promised to myself for my old age. For long my feet have been in a crowded city, but my vision has ever been among the hills. And this day

From the green earth rose
The songs of happy birds and murmurs rare
Of insect choirs, and all things breathed of peace.
From the crowded town I had fled and came
To this still village, all embower'd in elms,
Circled with lovely hills and bordering
A quiet stream that, winding calm and clear
By long willowy banks and emerald shores,
Stole on through meadows fair and blooming fields
Till the blue lake folded its tide away.
Full was my heart amid these peaceful scenes
Wherin the hours of boyhood I had passed
With gentle thoughts and visions pure inspired.
Now with the din of trade still in my ear
I came again unto the sacred spot,
Dearer than tongue can utter; and a joy
Kindled my weary pulses as I heard
Once more the evening robin carolling,
And by the familiar brookside caught the sound
Of voices treasured long in memory.

Having seen this country in childhood, having breathed and smelt it, having rolled in its grass and snow and swung in its trees, having eaten its fruits and drunk of its springs, having been in touch with its spirit, it is mine for aye, and I bless these healing moments when in fancy I am miles from the rattling pavements and the loud-speaking throng. And, so, I'll try to comply with Doctor Burdick's request and write of

MEMORIES OF BOYHOOD DAYS

At dewy morn I climbed the mountainside,
To watch the mists roll off the western hills,
To hear the forest breathing at my side
And feel the mellow music of the rills.
The subtle influence each flower distils
Into the slumbrous air lay round my heart;
I caught the magic song that wakes and thrills
The drowsy uplands—"May we never part,
Spirit of earth!" I cried, "for thou my angel art!"

Day broke in splendor o'er the gleaming fields
And eventide was full of calm repose.
No fairer harvest life's first tillage yields
Than Lov did fondly garner in, in those
My halcyon days; nor purer glows
The morning than that love. Like a fair dream
Of some ideal bliss that presence rose
Upon my inner vision, and a gleam
Shot o'er life's solitude and thro' my thoughts did stream.

Ah! well do I recall each happy hour
Of that exultant time; the ramble o'er
Soft grassy fields where rue and virgin's-bower
Twined with lithe meadowsweet; and by the shore
Where, murmuring on with plaintive, tremulous roar
O'er shining sands and many a pebbly ford,
The sunlit stream its azure tide did pour
And, winding thro' the vale by copse and sward,
With a victorious song swept proudly oceanward.

Loved stream, whose waters bright my young heart drew
To worship what in nature is most ure,
Moved by whose sweet companionship I grew
Into a nobler life, that shall endure
While thy clear waters kiss thy verdant shore.
Through memory's aisles I hear thy wavelets ringing,
And, as I roam, their music, evermore
About my life with tuneful cadence clinging,
Tears of nameless joy unto my eyes are bringing.

The Hand of Love and Goodness brought thy tide
From ferny springs and waked to tender joy,
And led thee forth in beauty like a bride,
Bidding the world revere thy sweet employ.
The stars welcomed thy birth; the sunlit sky
With looks of gladness o'er thy infancy
Did fondly watch; the flowers were thy toy,
And nature's gentlest guardians sheltered thee
As, singing, thou did'st wander t'ward the summer-sea.

Still thro' this charmed vale glide on, loved stream!
Unconscious of the world's impurity;
Nor statelier waters flow, nor softlier gleam—
Earth's forehead wears no lovelier gem than thee.
Would thou could'st make the world as bright and free
As thy glad course, enkindling with thy song
High yearnings for a nobler liberty,
With love and peace and virtue pure and strong,
Inspiring more and more mankind's insensate throng!

Some vision of a life undimmed by stain
Of passion's touch; some finer pow'r within
This mold of clay, whose radiance shall remain
When o'er our dust clust'ring wildflowers twine;
Some fair ideal caught from dreams divine,
When in celestial light the soul arrayed
Lifts the lone heart of man from kin of sin,
And to its sacred rapture doth persuade
Each pang, healing the wounds that grief and care have made.

But, from my song I wander, as a child
From village schoolroom homeward loitering,
Now paused, with a gentle wonder filled,
To hear in meadows far the sparrow sing;
Now by some rivulet loitering,
To weave a wreath of clematis and rue
Or stoop to drink from crystal-flowing spring—
Within whose depths the heavens' ethereal blue
Sleeps like a spirit-world, so wondrous is its hue.

And often there a maiden I did meet,
Where dreamy summer poured around her heart
Its wealth of golden sunshine. Pure and sweet
Thy dawning maidenhood, beyond all art
Or human knowledge, then did seem—a part
Of nature's universal loveliness,
A vision rare and delicate thou wert,
A child of earth, yet, heav'nlike none the less;
The very air crept nigh thy beauty to caress.

How often o'er the upland pastures roaming
We gathered mountain-berries side by side,
Till the blithe stars shone down the dewy gloaming
And softly fell the hush of eventide—
So swiftly then the tranced hours did glide!—
Then turned our footsteps homeward through the lane
And by the murmuring waters that divide
The meadow 'neath the hill, 'til the church-vane
Gleamed o'er the stately elms and we the porch did gain.

And often up the mountain's rugged face
We clambered, hand in hand, 'til at our feet
Lay each familiar haunt, replete with grace,
And floating upward from the village-street
Came the far cries of children, faint and sweet—
Like sounds from fancied regions—anon
The farmer's call 'mid fields of golden wheat;
The factory's hum; the cock's long clarion,
And, borne on listless winds, the forest's undertone.

Oft 'neath the breathless arches of the grove
We stopped, to hear sylvan voices ringing
Adown the perfumed air; the lay of love
From throat of warbler o'er his bower singing;
From Echo's call to cleft and hollow clinging;
The distant wooing of a mountain-stream
That, on the solitude its cadence flinging,
Poured thro' th' enchanted shade; the osprey's scream.
And many a secret song with which the woodlands teem.

O Earth, I never knew thou wert so fair
'Til thou didst lead me to this valley-home;
Breathed 'round my waking soul thy balmy air
And badst me thro' thy leafy cloisters roam;
Unto thy loving arms thou murmuredst, "Come!"
Clasping me, like a brother, 'til I grew
To love thee, with a love that summer's bloom
And winter's sterner landscape e'er renew—
And each year finds thy child more reverent and true.

Yes, tender Earth, thou gav'st me every joy
That life and sacred friendship can bestow,
Kindling within my breast, e'en when a boy,
A passion fond and strong. To thee I owe
The gentle inspiration and the glow
That made my childhood eloquent with hope,
And dreams of an ideal world, where wo
And pain and human wrong no more shall cope
With godlike man, and eyes with sorrow sealed shall ope.

To thee I owe the hallowed thoughts that filled
My eyes with tears to see thy blooms upbreaking
Beneath the wildwood shade; thy seasons thrilled
My heart with ceaseless joy; thy music, waking
In fragrant deeps, into my spirit speaking,
Kindled in me a dream of brighter days—
I saw thy fairy-hosts with treasures decking
Thy loveliness; and from the forest-sprays,
With rapture mute, I heard thy wood-birds' roundelays.

And then, to crown my life with happiness,
Thou gav'st me this companion, whom I loved
With secret tenderness, whose soft caress
Filled every dream with beauty as I moved,
In fancy, by her side; with her, I roved
The blossoming world, until she grew to be
Part of my soul, whose clearer essence proved
All that was passion-born and base in me
And lifted me in joy to its own purity.

—

In my student days I enjoyed the intimacy of a young fellow who has since become celebrated in the science and practice of mechanical engineering. In those days he had just graduated from Stevens Institute, and, although his father was a millionaire, he was putting in two years' common hard labor, incognito, in the repair shops of a railroad company, in a city far from his home. Incidently, he was no "remittance man," either; he lived on his day wages.

I well remember a certain evening when this young intellectual and physical giant came home from work—we boarded together—with his head in the air and a proud grin on his face, because he had overheard the foreman of the round-house inquire concerning a locomotive that stood waiting to be moved out, "Who was underneath her, tightening up nuts?" "So-and-so," was the answer, naming our hero. "Pull her out," promptly ordered the foreman.

Childish, to be proud of that? Nay, it was just the kind of conceit that has placed him where he is today, at the head of his profession. The man who can tighten up bolts so that a locomotive can confidently be pulled out and thundered over a thousand-mile run without further inspection is a man to be reckoned with in any line of work. Has my story no application to the work of the medical man? He who runs may read.

—

Harvey's writings show that he was a philosopher as well as a scientist.

"It cannot be helped," he says, "that dogs bark and vomit their foul stomachs, or that cynics should be numbered among philosophers; but care can be taken that they do not bite, or inoculate their mad humors, or with their dogs' teeth gnaw the foundations of truth. Detractors, mummers and writers filled with abuse, as I resolved with myself never to read them, satisfied that nothing solid or excellent, nothing but foul terms, was to be expected from them; so I have held them still less worthy of an answer. Let them consume in their own ill nature. They will scarcely find many well-disposed readers, I imagine; nor does God give that which is most excellent and chiefly to be desired—wisdom—to the wicked. Let them go on railing, I say, until they are weary, if not ashamed."

Among the Books

HEITZMANN: "URINARY ANALYSIS AND DIAGNOSIS"

Urinary Analysis and Diagnosis by Microscopical and Chemical Examination. By Louis Heitzmann, M. D. Third revised and enlarged edition. With 131 illustrations. New York: William Wood & Co. 1915. Price $3.00.

The examination and interpretation of the urine is a very different matter in these days from what it was a few years ago—even when the preceding edition of this work was published. The presence of certain definite findings, such as albumin, sugar, and the like, evidencing the presence of equally definite diseased conditions of the kidney structure itself, which was formerly the be-all and end-all of a urine analysis, is now regarded as but a meagre part of the procedure. It is nowadays thoroughly understood that the urine furnishes an index to the whole body-chemistry and gives notice of the earliest beginnings of metabolic disorders long before the serious and destructive organic processes have set in. Indeed, it may safely be said that no one diagnostic procedure gives us so many and so varied diagnostic and therapeutic pointers as does a thorough examination of the urine.

This broad value of uranalysis is adequately recognized and exemplified by the author in the present edition of his work. It embodies all the simpler tests and methods that have proven of value as an aid to the procedure in the hands of different authorities. Special stress is laid upon microscopic examination and interpretation, since the author rightly holds that this aspect of urine examination is the most far-reaching and fruitful in its clinical results.

WECHSELMANN: "SALVARSAN FATALITIES"

The Pathogenesis of Salvarsan Fatalities. By Wilhelm Wechselmann, M. D. Authorized Translation by Clarence Martin, M. D. St. Louis: The Fleming-Smith Company. 1914.

As the author pertinently remarks in his introduction, of all the clouds which have encompassed salvarsan-therapy, the blackest is, the occasional occurrence of fatalities in consequence of the intravenous injections of salvarsan. And the author further frankly declares that there cannot be any doubt about these cases being pure salvarsan-fatalities, meaning, that these patients would not have died at the time if it had not been for the introduction of salvarsan into their veins.

In this book, Doctor Wechselmann has set himself to inquire into the pathogenesis of these most unfortunate deaths. It is, in fine, a brief in defense of this arsenical synthetic; and the conclusions arrived at are, that the untoward results of salvarsan treatment by no means are inherent in the remedy itself, but pertain to errors in its administration. Exact technic, careful dosage adapted to the individual treated, observation of the body-metabolism as indicated by the urinary findings, caution in joining salvarsan and mercury treatment, and careful watching of all the reaction-effects—these, according to the author, virtually will eliminate the dangers of salvarsan-therapy and obviate disastrous consequences. In addition, the data and arguments by which these conclusions are reached yield some very interesting and valuable information concerning salvarsan-treatment.

LORD: "PULMONARY DISEASES"

Diseases of the Bronchi, Lungs, and Pleura. By Frederick T. Lord, M. D. With 93 engravings and 3 colored plates. Philadelphia and New York: Lea & Febiger. 1915. Price $5.00.

On first picking this book up, one is disposed to wonder how such a large volume could be written about diseases of the pulmonary system alone. After the most moderately attentive reading of its pages, though, one's mental attitude changes, and one marvels at the skill with which the author has condensed his material into relatively so short a space.

As a matter of fact, this book represents a most creditable effort to present our current knowledge concerning pulmonary diseases

as recorded in the literature on this subject, in addition to that gained by personal experience in the wards and the laboratories of the Massachusetts General Hospital, in his capacity as visiting physician, in such form as to be available to students and practitioners, and also to furnish a basis for further research. References are given to the most important original articles, so that the literature may readily be looked up by those who wish to go more fully into particular problems. Pulmonary tuberculosis is not considered under a separate heading, but special attention is given to those conditions simulating pulmonary tuberculosis, and the differential diagnosis is presented.

THE MAYO "CLINIC PAPERS"

Collected Papers by the Staff of St. Mary's Hospital, Mayo Clinic Rochester, Minnesota. Edited by Mrs. M. H. Mellish. Volume VI. 1914. Philadelphia and London: The W. B. Saunders Company. Price $5.50.

This book represents a contribution of experience and observation to the surgical knowledge of the times, as gathered in the course of five years of exceptional opportunity and work in the Mayo clinic. The largest number of articles in the volume are not contributed by the brothers Mayo themselves, but by their clinical associates and their assistants. As might be expected, the greater number of the papers are devoted to surgical diseases of the alimentary tract, upon which the Mayos have been concentrating their attention during the period covered. There is nothing, of course, of the order or classification which characterizes the textbook, still, the collection has a personality and a vitality that textbooks lack.

Many physicians and surgeons who have been to Rochester and seen the two Mayos at work with their staff, as well as many who have not been able to avail themselves of this privilege, will read with avidity and profit what these experienced men have to say concerning the subject-matter that has passed through their hands during the past five years.

DYKE: "AUTOMOBILE ENCYCLOPEDIA"

Dyke's Automobile and Gasolin Engine Encyclopedia. By A. L. Dyke, E. E. Fourth edition, revised and enlarged. St. Louis: A. L. Dyke. Price $3.00.

Edison said that he could teach more within fifteen minutes with a moving picture than could an ordinary teacher in months. The same principle applies to the Dyke system of instruction in the theory and practice of an internal-combustion engine and of the motor-car in general. The basic principle of conveying the lesson is, to teach through the eye, by means of working-models, charts, manikins, and the like. The book contains 319 charts, besides a dictionary and the index, treating of the construction, operation, and repair of automobiles and gasolin-engines. Everything is cleverly simplified, in Mr. Dyke's well-known way, and minutely detailed in the illustrations; in fact, the illustrations almost tell the story without reference to the text.

We heartily recommend this unique book to every physician who operates an automobile—and we believe that physicians, as a class, include a larger proportion of car owners than does any other body of men. Not only so, but the automobile is a more important object to the doctor than to any other individual, in that it is an integral part of his stock in trade. Hence, the ultra importance of his possessing a thorough knowledge of the machine. This book of Mr. Dyke's seems to offer the most rational and direct method of teaching the layman all worth knowing about the automobile.

WATSON: "GONORRHEA"

Gonorrhea and Its Complications in the Male and Female. By David Watson, M. B., C. M. With 72 illustrations and 12 plates, 9 in colors. New York: Paul Hoeber. 1915. Price $3.75.

This is one of the most complete and exhaustive presentations of the subject of gonorrhea that we ever have seen. Every aspect of the disease is thoroughly dealt with, from its history to its sociologic relations, from its bacteriology to its remotest clinical phases. For a long time the treatment of gonorrhea lay largely in the hands of quacks and prescribing druggists. However, the modern laboratory and clinical investigations at last have established the diagnosis and determined the treatment of the various manifestations of gonococcal infection upon a scientific basis and have brought them within the sphere of the educated medical practitioner, where they rightfully belong.

The author's avowed object in producing this book is to place at the disposal of the practitioner and the student a review of the work, as he understands it, of the many scientists and clinicians by whose labors our

knowledge has been enhanced, and he cheerfully acknowledges to them whatever merit this book may possess. Doctor Watson's own clinical work during the past twelve years have afforded him peculiarly advantageous facilities for assimilating and corroborating the opinions expressed in his writing. The mechanical features of the book, including the illustrations, are excellent.

CHURCH-PETERSON: "NERVOUS AND MENTAL DISEASES"

Nervous and Mental Diseases. By Archibald Church, M. D., and Frederick Peterson, M. D. With 350 illustrations. Eighth edition, thoroughly revised. Philadelphia and London: The W. B. Saunders Company. 1914. Price $6.50.

The authors make the statement that, after a careful re-reading of the text, in the preceding edition, of the section devoted to nervous diseases, only a very few material changes were deemed necessary, and have been made. The subject of vertigo and its relation to the labyrinth, as has been developed by Barany, has received careful consideration under the discussion of the diseases of the vestibular portion of the eighth nerve. In the section on infantile paralysis, much new matter, as might be expected, has been added. The entire subject of syphilis of the nervous system has been brought up to the recent epoch-making discoveries in this branch of neurology. Throughout the work, references to the new investigations of the changes effected in the spinal fluid in organic diseases of the cord and brain have been introduced. Such facts as have become of established importance with regard to the internal secretions and their relation to nervous disorders have been incorporated, and tetany has been definitely placed in this group. Altogether, more than one hundred important interpolations have been made, and more than two hundred minor alterations. The book continues to enjoy a widespread popularity among teachers and practitioners.

DESPARD: "MASSAGE"

Textbook of Massage and Remedial Gymnastics. By L. L. Despard. Second edition. New York: Oxford University Press. 1914. Price $4.50.

This work may well be regarded as a comprehensive and authoritative presentation of the entire subject of massage, both as a science and as an art. Indeed, the text is divided into two distinct parts upon this basis of classification. Part I is devoted to a study of the anatomy and physiology involved in the scientific principles of massage. Part II contains practical instructions for the application of these principles through the various forms of massage movements. However, Part II may well be considered as consisting of two distinct subdivisions; namely: one, in which the technic of the different movements is described and explained, and the other, in which the therapeutic values and uses of these modes are expounded in the various diseases in which they are applicable.

The text is excellent, as it usually is in English books. The illustrations of massage-technic do not measure up to what we in America are accustomed to demand in our technical literature; still, the anatomical drawings, which are copied from Cunningham, are very good, of course. The author takes pains, in her preface, to warn the reader against the mischievous idea that he can learn massage from this or from any other book. A textbook has its proper value, certainly, but nothing can replace practical teaching from a competent teacher.

FOSTER: "DIABETES MELLITUS"

Diabetes Mellitus. Designed for the Use of Practitioners of Medicine. By Nellis B. Foster, M. D. Philadelphia and London: The J. B. Lippincott Company. 1915.

The investigations in the pathogenesis of diabetes that have broadened our knowledge within the last decade have given rise to an enormous literature. For the most part, important contributions have been printed in those journals devoted to physiology, chemistry, and such other special disciplines, but which are not, commonly, read by the average clinician. On the other hand, many of the clinical papers and even monographs are frankly partisan to some doctrine that may have vogue for the time being. Because of this fact, it has been impressed upon the author that a critical presentation of the evidence, as it exists, would be of value to physicians and clinicians. The disparity in the point of view of the pathologist and the biological chemist from that of the clinician the author thinks is explicable only by the lack of a critical background for the latter.

The author has not attempted compiling a complete bibliography, in view of the extensive literature dealing with diabetes. As a preferable plan, he has cited under each chapter those papers which deal exhaustively with a given subject.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Answers to Queries

ANSWER TO QUERY 6017.—"Profuse Sweating." Regarding Query 6017 (July), I would like to suggest that chromium sulphate and agaricin might be of value for the sweating; chromium sulphate, because of its value in degeneration of tissue secondary to changes in the spinal cord, in full dosage (Shaller's rule, modifying according to age) of 40 grains per day; agaricin, because of its action upon the peripheral nerve-ends. It should be given in doses of 1-64 grain, say, at 3, 4, 5, 6 o'clock, or later, in accord with the child's usual bedtime. The amount of fluid intake in the evening should be limited, and, of course, the alimentary canal should receive attention.

J. K. NEWMAN.

Omaha, Nebr.

Queries

QUERY 6026.—"Diabetes Mellitus?" A. A. R., Wisconsin, submits the report of the urine examination of a girl 13 1-2 years old, and he asks us to make a diagnosis: The patient began menstruating last October, and menstruated regularly until March. For a year or so she had had some sores on her scalp that did not heal. Last March, when the Doctor assumed charge, he found her "face, neck, and the upper part of her chest greatly swollen, and areas of ecchymosis around the eyes and back of the head; there being an area of redness on the back of the head when a sore formed. This swelling subsided under local and systemic treatment, as did the ecchymosis. At the same time, she complained of pain both in her fore-arms and upper arms. Gradually the face grew well, but then her arms began to swell. Later, this swelling in the arms subsided, but not so the pain. A week before this writing, she apparently was on the road to recovery, but then the ecchymosis reappeared over her eyelids and the lower part of the legs began to swell and pain; but there was no swelling of face or arms. Her appetite is good and bowels are regular. Pulse, 120; temperature, 100° F.; no headache. Menstruation stopped about the time she became sick. She is restless and nervous and complains of pains in her arms and legs, so that she cannot very well move them. She voids about three quarts of urine in twenty-four hours, has much thirst, craves sweets."

The urine examination revealed a very small output of urea. Colon-bacilli were present in considerable numbers; also, much squamous epithelium and a few pus-cells. This girl's blood should be examined. Were we in your place, we should make a thorough examination of the pelvic viscera. Of course, the age of the girl will necessitate very cautious manipulation.

Diabetes insipidus in a girl of this age presenting the conditions you describe would evidence some profound disorder of the body-chemistry or some persistent low-grade infection. Is there a history of tuberculosis? Is her home sanitary? What was the character of the initial sores on her scalp? Are there any open lesions at the present time? Is there any discharge from the eyes?

On general principles, we should prescribe as follows: Echinacoid, gr. 1, and irisoid, gr. 1-6, every three hours; calcium sulphide, gr. 1-3, every two hours; the triple arsenates with nuclein after each meal. Every second night, at 8:00 and 8:30 o'clock, give calomel, gr. 1-5; podophyllin, gr. 1-6; bilein, gr. 1-12; the next morning a laxative saline. Hot epsom-salt sponge-baths and, if necessary, the application of compresses, wrung out of

this solution at body-temperature, to the edematous areas should prove beneficial.

This patient's condition would strongly lead us to suspect diabetes mellitus, only the urinary findings do not support this presumption. It may be well to have another specimen examined. On no account, allow the girl to eat sweets. Place her upon a very simple, easily assimilated and nutritious diet. She practically should live in the open air.

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QUERY 6027.—"Dermatitis Exfoliativa." E. G. H., Iowa, desires information regarding a peculiar condition of the skin of a newborn child. When the baby was born, its skin over the entire body appeared shriveled and moist—"loose, as skin will be when it has been water-soaked for a long time." In the bath, practically all of the skin peeled off. The child appears normal in every other way. Both father and mother (primipara) apparently are healthy. Labor lasted about ten hours.

Also, what, if anything, is known about the Expurgo Manufacturing Company of Chicago, and their products?

For information relative to the second question, we refer you to the January 24, 1914, issue of *The Journal of the American Medical Association*, under the "Propaganda for Reform" department. The editors, we are sure, will be pleased to send you a copy upon request.

Now as to the baby. The extensive desquamation described as occurring shortly after birth naturally leads to the suspicion of syphilis.

Pemphigus neonatorum is occasionally met with, but in this condition there is no extensive desquamation. The blebs, which contain yellow serum, vary in size from a pea to a silver quarter; when these rupture, superficial ulcers form, and these are covered over with a thin black crust. The duration of the bullæ is about one week. As a rule, the eruption is confined to the palms of the hands and soles of the feet.

A great many authors regard pemphigus as a form of infantile syphilis. You state that both the father and mother are healthy and that the child appears to be normal. As a rule, other symptoms indicative of syphilis are present; for instance: the child looks oldish, has a snuffle coryza, a peculiar coarse cry, lesions are found both on the skin and mucous surfaces, the latter being vesico-bullous or bullous. Occasionally, however—with the exception of desquamation—the child, at the time of delivery, presents every indication of good health, the other signs of the malady not making their appearance for weeks or, sometimes, months.

In some cases of hydramnios, especially if delivery is delayed, there may be more or less maceration of the skin. It is decidedly unusual, though, for the entire body to be affected.

We should look carefully into the paternal history. Make a thorough examination of the child; under any circumstances, it should be carefully watched for the next few months.

Dermatitis exfoliativa frequently has been confounded with pemphigus. This writer is not prepared to assert that an infant presenting this condition is syphilitic, although doubtless a luetic history can be traced in the majority of such cases.

The nature of the disease still remains obscure, and the process has variously been regarded as a dermatitis of pyemic origin, as an epidermolysis associated with hyperemia of the cutis, as a dermatitis caused by a fungus (found by Riehl), and, also, as merely an exaggeration of the physiologic epidermic desquamation seen in the newborn. In one instance, staphylococcus pyogenes aureus and albus were found in the blood. The view expressed, that it is a sequel of some form of intrauterine exanthem of the fetus is negatived by the many examples in which desquamation has not occurred until four or five weeks after birth.

A true dermatitis exfoliativa neonatorum, however, rarely appears before the fifth week, the symptoms varying, although there always is the essential exfoliation leaving here and there (or, in the grave cases, more or less general over the body) an exposed red rete or corium. Buccal, nasal, and conjunctival mucous membranes show invasion. There usually is crusting and fissuring at the juncture of skin and membrane. The prognosis always is grave, a fatality of about 50 percent being recorded. For further data, see Stelwagon's "Diseases of the Skin," also the chapter on dermatoses — pemphigus neonatorum — in Candler's "Everyday Diseases of Children."

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QUERY 6028.—"Treatment of Tic Douloureux." J. C. B., Missouri, has for patient a man 61 years old who has been afflicted with "tic douloureux" for about thirty years. He is not well nourished, as his teeth have all been taken out. He also fell into the hands of quacks, who tried to sever the dental nerve. Gelsemium, the bromides,

copper arsenite, the phosphates, nuclein, and neuro-lecithin have been given; also, saline laxative, sodoxylin and calomel, and the podophyllin and bilein compound. Nothing seems to help.

To prescribe intelligently, we must have a clear idea of the conditions present in this particular case. In general, injections of alcohol and of osmic acid sometimes prove effective, but as often they fail. In obstinate neuralgias, all medicinal treatment sometimes proves inefficacious, and, so, surgical procedures (section of the nerve or extirpation of the gasserian ganglion) may be the only resort.

Tic is to be sharply distinguished from other neuralgias. For instance, it begins almost always in middle or later life, and is characterized by pain, frequently starting in the upper lip or side of the nose, at times flashing upward along the nerve or radiating outward from a central point. The pain is of extreme severity, lasting usually a minute or two, then disappearing as abruptly as it came.

During an attack, the affected side of the patient's face is flushed, twitching of the muscles occurs, and there may be lacrimation, salivation, and discharge of serum from the nose. If, as we believe, tic is the consequence of degenerative changes in the gasserian ganglion, the latter should be extirpated; in which case the peripheral operation may be tried first.

Aconitine and gelseminine pushed to physiologic effect have given the best results in our hands. Neuro-lecithin and calx iodata should be taken for several weeks; a morning dose of saline laxative should also be ordered. During this treatment, the galvanic current may be applied with advantage. If such procedures do not avail, operation should be urged, although a great deal depends upon the age and systemic condition of the affected individual.

We cannot in any way endorse alcohol injections and do not believe that experienced physicians anywhere now recommend the procedure.

It is unnecessary, we are sure, to call your attention to the absolute necessity of *thorough* elimination. Blue mass and soda, gr. 1-2; with leptandroid, gr. 1-6; and bilein, gr. 1-2; at 7, 8 and 9 p. m. every second or third night, and a full dose of salithia or sodium phosphate the next morning, will give most satisfactory results in the majority of cases, salithia usually proving more efficacious than saline laxative.

As an external application, nothing will prove more satisfactory than an ointment of the following composition:

Oil of turpentine	m. 8
Oil of cloves	m. 10
Oil of mustard	m. 4
Guaiacol	grs. 4
Camphor	grs. 20
Oleoresin of capsicum	grs. 5
Menthol	grs. 16
Ointment base, enough to make	oz. 1

In many cases, a few moments' application of the high-frequency current with a vacuum-electrode has proven (temporarily) curative.

It is, of course, advisable to have the patient's urine examined thoroughly.

Query 6029.—"Recognition of Uterine Fibroids." F. J. S., New Jersey, asked us how the existence of fibroid tumors can be positively proven when a thorough examination is impossible, the patient being a virgin. "What," he inquired, "are the most reliable tests or proofs that the tumor is on the womb? What are the general symptoms? Is an operation always necessary or can fibroids be absorbed by the use of internal remedies? What causes fibroids, as a rule? Is there any book published on this one subject?"

To the foregoing inquiry we replied as follows: "Unfortunately, doctor, it is impossible to devote space in Clinical Medicine to the description of uterine fibroids, especially as every modern work on gynecology considers the subject fully; see, for instance, Ashton, Garrigues or Edgar. It is almost impossible to mistake a uterine fibroma for anything else. We should not expect to find such a growth in a young virgin and it certainly would not be a difficult matter to make the necessary examination in a female of more advanced age. Bimanual palpation of the uterus is a very simple performance, and this writer has yet to encounter a woman who believed that she had anything seriously amiss with her pelvic organs and refused to submit to such procedure. Should she do so, however, let her thoroughly evacuate the bladder and intestines, when deep abdominal pressure will enable you to determine definitely whether or not the uterus is involved. Frequently small myoma disappear under a course of iodine. If you will give us a clear idea of conditions present in this or any particular case, it will give us great pleasure to aid you to the extent of our ability."

Thereupon F. J. R. writes as follows: "In the case referred to in my previous letter, the

lady was in the hands of her family doctor and, being alarmed about the treatment received, consulted me, and she now wishes to be advised correctly as to her condition. The other doctor advised operation at once. Not being able to make a thorough examination (the lady being very nervous and a virgin), I was unable to do more than find a medium-hard lump below the navel, in the morning upon her arising and previous to evacuating the bladder, but after urination the lump disappears until the next morning. The woman is thirty-one years of age. Do you think the other doctor erred in claiming it to be a uterine fibroid tumor? What is your opinion."

We regret to say that even now it is impossible for us to venture a positive opinion as to the character of the enlargement you describe. The fact, however, that immediately after evacuation of the bladder the tumor disappears, would lead us to doubt the existence of a fibroid tumor of the uterus, especially as the nodule appears just below the umbilicus. The virgin uterus, we are inclined to think, hardly would occupy this position. Moreover, your knowledge of anatomy would lead you to realize that a distended bladder would, if anything, depress the fundus of such a uterus. However, a carefully conducted examination will soon settle the question, and, if your patient has ordinary common sense, before suffering any exploratory incision, she surely will submit to the necessary digital exploration.

In this connection, we would call your attention to the socalled "phantom tumors" which sometimes appear in hysterical females. The possibility of fecal retention should also be borne in mind. Some light might be thrown upon the subject by a careful examination of the urine.

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Query 6030.—"Obesity." D. F. P., New York, is treating for obesity a man aged fifty-six, who ordinarily weighs about 212 pounds, stands 5 feet 8 1-2 inches, and has the fat pretty evenly distributed, except that there is a surplus over the abdomen. his waist measuring 46 inches. He enjoys very good health, generally speaking, but has been troubled all his life with "starchy indigestion and fermentation in the lower bowel." Also, his liver is slightly sluggish, although not enough to cause sallowness. Our correspondent thinks that, if the gaseous fermentation and inability to digest starchy food were corrected it would be much easier to reduce his weight. The patient never has dieted, always has had a good appetite, but takes only two meals a day—breakfast and dinner. Advice is desired.

We believe that your patient will be markedly benefited by careful dieting and, besides, taking the following: Colchicine, gr. 1-250; strychnine sulphate, gr. 1-64; berberine hydrochloride, gr. 1-64; caffeine, gr. 1-6; apocynoid, gr. 1-6; alnuoid, gr. 1-6; phytolaccoid, gr. 1-2; with oil of bitter orange-peel and aromatics. Calx iodata to be taken as alternant in doses of from 1-2 to 2 1-2 grains.

When commencing treatment, be sure to secure thorough elimination by the use of small divided doses of calomel, podophyllin, and irisoid; say, 1-6 grain of each half-hourly for four doses, every second or third night. A saline laxative should be taken the next morning. This writer finds salithia and saline laxative in alternation quite as effective as Vichy and Kissingen waters. The patient must, of course, be dieted carefully and starchy foods limited to a great extent.

Many special diets have been recommended, some being absurd, most of them useless, and a few even dangerous. In the Salisbury treatment, large quantities of meat are given and thus a severe strain of protein metabolism and nitrogen excretion is thrown upon the tissues. Very fat and anemic persons (especially women) may be placed upon milk — preferably skimmed — vegetables, fruits, and small quantities of fish and red meat every second day.

A diet which has been highly recommended in ordinary cases of obesity is:

7:00 to 7:30 a. m.: One orange, apple or pear. Half a pint of hot water or very weak tea, without sugar.

8:00 to 8:30 a. m.: Tea, 5 to 8 ounces; milk, 1-2 ounce; saccharin, if desired; 1 or 2 boiled or poached eggs; dry toast or bread, 1 to 1 1-2 ounces; butter, 1-4 ounce.

11:00 to 11:30 a. m.: Clear soup or buttermilk, 8 to 10 ounces.

1:00 to 1:30 p. m.: Either cold fowl, game, lean meat, ham, tongue, hot lamb cutlet or sweetbread, 3 to 4 ounces; salad, 1 ounce; dry cheese, 1-4 ounce; celery, radishes, etc.; either rye-, brown-, bran- or gluten-bread, 1-2 to 1 ounce; butter, 1-2 ounce; fresh fruit or water, 4 to 6 ounces.

4:00 to 4:30 p. m.: A large cup of plain tea with a dessertspoonful of milk; one piece of dry toast or bread and jam or bread with lettuce, mustard and cress or tomato.

7:30 p. m.: Clear soup, 4 ounces; either fish cooked without fat or any kind of meat,

game or poultry (except pork), 4 to 6 ounces; green vegetables of a caloric value under 5 per ounce *ad lib.*, or smaller amounts of those with a higher caloric value, say, 1 to 2 ounces; farinaceous pudding, 3 to 4 ounces; watermelon or cooked unsweetened fruit; toast or some kind of bread, 1 ounce; butter, 1-4 ounce; water, 4 to 6 ounces.

Bedtime: 8 ounces of hot water.

The suitability of the diet depends upon its caloric value and variability. It is estimated that a man weighing 175 pounds requires 32.9 calories per kilogram when resting, and up to 68.4 per kilogram when working; the amount depending upon the character of labor, which gives a daily total of 2303 to 4790 calories. Roughly speaking, an adult male should receive 2800 calories daily, and this would be supplied by the subjoined diet (the two tables, left and right, represent varying types of dietary):

Calories	Grams	Foodstuffs	Grams	Calories
410	100	Protein	120	492
837	90	Fat	150	1395
1640	400	Carbohydrate	170	697
....	...	Alcohol	30	210
2887				2794

These figures afford a useful basis for computation of suitable diet for any particular individual. It should be borne in mind that even an extra daily supply of 200 calories (or 8 ounces of milk, 1 ounce of butter, 2 of cheese, 3 of bread, 3 or 4 of meat, or 16 of beer) may be stored up as fat.

Thus, in order to be able to regulate the diet properly, a knowledge of the caloric value of foodstuffs is essential. Interesting literature on this subject can be obtained upon application to the U. S. Surgeon-General's Department, Washington, D. C. See also the chapter on the treatment of obesity, in Hare's "Modern Treatment," also Friedenwald and Ruhraeh's "Diet in Health and Disease."

There is no good reason for reducing the amount of fluid ingested; frequently a drink of plain water ten minutes before meals helps to satisfy hunger. The omission of fluids with meals leads to more thorough mastication; therefore, satisfaction of the appetite.

Meals should be small and numerous, to prevent hunger. The patient must be instructed to satisfy his appetite with foods having little nutrient value. Sugar must be avoided. Clear soups, tea, and coffee are stimulating, but innutritious, and these may be taken in moderation, if there is not any renal disorder.

After weighing the different foods for a few days, any intelligent individual can form a sufficiently accurate estimate by sight of the amount required; precision is not essential. It is advisable to keep to a simple diet and of comparatively little variety. A loss of from 4 to 8 ounces in weight daily is sufficient.

Accumulated fat can be removed by means of exercise and purgation with saline cathartics; exercise at first must be moderate. Rest in bed should be limited to seven hours.

A writer in "The Practitioner's Encyclopedia of Medicine and Surgery" condenses the whole subject in the following paragraph:

"The successful treatment of obesity can be summed up as consisting in a suitable diet, exercise and self-restraint. Up to the age of twenty years, eat as much as you can; at from twenty to forty years of age, eat what you want; after forty years, reduce the intake of food gradually to a minimum compatible with health."

Query 6031.—"Palatable Preparation of Calcidin." L. W. C., Oregon, asks us to advise him of the most palatable way to prescribe "calcidin" for children.

A simple sweetened solution of calcidin proves most agreeable to the majority of young children. In some cases, glycerin may be used in place of sugar, while occasionally this writer employs aromatic elixir. A very good formula is: Calcidin, grs. 10; aromatic elixir, oz. 1; water, ozs. 3. The calcidin content may be increased, of course.

Probably one of the best ways to administer calcidin, especially in pertussis, is, to crush the tablet in a little sugar, place the powder upon the child's tongue and have it swallow it with a little water.

Query 6032.—"Erythromalalgia." J. M. I., Illinois, desires to know what can be done for erythromalalgia. This condition may be resultant upon any one of a dozen different conditions. Correction of the body-chemistry, equalization of the circulation, and elevation of the extremities, with sometimes the maintenance of even pressure (by the application of an elastic bandage) may prove curative; not infrequently, however, the condition proves most intractable.

Give us a clear idea of the general condition, the history and the age of your patient, and we may be in a position to aid you more intelligently.

The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use

Vol. 22. No. 10 OCTOBER, 1915

Bouchard as a Prophet

"IN the intestine, infection is constant. In every individual and at all times, the agents of intestinal putrefaction are to be found in the intestinal lumen, giving rise to toxic products that the intestine absorbs, and intoxication of varying degree is extremely frequent. That this intoxication is not more frequent, that it is not of daily occurrence, is, because the organism is provided with means of self-protection; and it is the liver that acts as a barrier to the poisons."—Bouchard.

It has been many years since the brilliant Frenchman quoted published his epoch-making book. Plenty of time has been afforded to test his theories and to try them out in practice. The discussion of this theme has been world-wide, and it may safely be asserted that every possible objection has been made and fully considered. The result is, that the question of intestinal infection has become one of the subconscious bases of medical thought and practice; the contention concerning it today being limited almost to the question as to who is to have the privilege of coping with this condition—the internist or the surgeon.

Hats off to the surgeons! No sooner had the internists demonstrated the extent and the fruitfulness of this new field, than the men of the knife displayed a strategy truly Teutonic—they moved in and took possession. Lane showed himself a Hindenburg. Armed with scalpel and bistoury, hemostat and catlin, the chirurgic army flowed through the breach made by him and occupied the land; and at present they are discussing whether the intestinal kink is the preferable reason for operating or whether it is some other condition in the belly.

The principal element contributing to the success of the Bouchard theory was, that it fitted in exactly with what had been common knowledge among the medical profession for centuries. Our fathers knew the benefits that followed a thorough emptying of the alimentary canal, however crude may have been their explanations of the phenomenon. Many things there are that we know or are cognizant of but unable to prove. I, for instance, know that the Michigan peach I may be eating is delicious, but I should be at a loss to prove it, or to give an explanation that would satisfy the demands of modern science. I have nothing but clinical evidence to proffer in support of my opinion, and I admit the variable and fallacious nature of such testimony. Nevertheless, I cling to my

conviction that the peach is good to eat. In the same way, I know that the vast majority of the cases of intestinal infection and fecal autotoxemia that come before the practician are amenable to treatment by means of hygiene and drugs and that only the exceptional ones demand mechanical measures. The doctor who fails to recognize these exceptions and keeps on giving laxatives, when there is present a kink in the gut, a tight sphincter or some other mechanical obstacle, is not a good doctor. And the man who is ready to "operate" in every such case is—a good business man.

Much useless or injurious medication can be avoided if one sees clearly what may be the true object for therapeutic intervention. Giving laxatives is only a temporary expedient, a palliative, not a cure. There may be defective innervation of the intestinal tract, defective muscular activity, or defective secretion, with costiveness. The cure in every case must start with a regulation of the habits, the diet, the personal hygiene.

The anticonstipation combinations are excellent, if they are employed to restore regular activity of the bowels; they are injurious, if given simply to obtain relief. Dryness of the fecal mass demands different remedies—and some day we may agree with the followers of Thomson as to the value of lobelia, in this condition at least. So as to the purgative salines—they are valuable, if not abused. The patient feels so good when the wickedness has been purged away from the neighborhood of his abdominal brain, that he goes on contentedly, taking a purgative dose every morning, gradually increasing as the natural action of the intestine is supplanted and weakened by the adventitious aid given; until in time he begins to grow uneasy at the increasing intestinal torpor, and seeks advice.

Rogers, of India fame, has demolished the most cherished contention of the pessimists—that the alimentary canal can not be rendered aseptic. He has shown—and many others have verified his contention—that emetine really does destroy one of the most dangerous organisms that thus far have been found to inhabit the bowels, that is, the entameba. This carries with it the presumption that other intestinal parasites may be affected by this, that or other agent. We, most assuredly, do not know all the microorganisms that are having their habitat here, nor know what mischief they are brewing. The demonstrated effects of emetine strengthen our contention that, when widespread clinical observation indicates that an agent such as zinc sulphocarbolate administered in certain dosage is followed by decided beneficial changes in the condition of the patient, we should discuss how and why the benefits are produced, instead of obstinately denying them, because certain experiments have failed to rid the bowels of all microorganisms of every species.

The premise that every such organism must be destroyed, or else no benefit can result, is not warranted by any evidence that has ever been placed before the scientific world. Manifestly, that doctrine is false, and is put forward in a spirit of captiousness, rather than in a sincere and impartial desire to ascertain the truth. It was this same spirit that prevented the erection of modern fortifications about Antwerp, when the British engineers had pronounced the ancient defenses obsolete and unreliable. The result we know.

The average American physician is a curious character. He has a will of his own, and a thinker in his head. He does not lead well. He always has something of his own back, and receives the other man's views simply as material from which he draws his own conclusions. He is reticent, and one has trouble to draw him out and to induce him to air his views. He is disposed to give due weight to the other man, but not to pin his faith on him unreservedly. He is modest as to his own resources and always ready to try out the new things, but he reserves judgment on them until personal observation has enabled him to form an opinion of his own. He is hard to convince, he is disposed to question the testimony of the man who has goods to sell to him, but does not condemn him unheard on that account; when, however, you once have won him, he is yours for life, unless you try to take advantage of his confidence. You may goldbrick him once; you can not goldbrick him twice.

The American doctor has persisted in using the intestinal antiseptics, not because Bouchard urged them or any other great authority has sanctioned them, but because he himself put them to work and got unmistakable benefits from them.

You can not convince the man who knows a thing for himself. Herein lies the vast strength of any really valuable remedy, and equally the certain fate of the fake—for, it is the doctor himself who is judge and jury, the court of last resort. Nobody knows as well as does the doctor the real value of any method of treatment. That some famed man

in Germany or in France or in Thibet claims good results from a remedy, does not matter so much; but, if Doctor John Jones of Hickory Corners gets good from it, that is the remedy that John Jones henceforth is going to use until he gets a better one. All the printers' ink in the world can not sustain a useless drug.

The melancholy days are come,
The saddest of the year;
Of wailing winds, and naked woods,
And meadows brown and sear.
—W. C. Bryant.

PAUL EHRLICH

The world of science has suffered a great loss in the death, on August 20, of Dr. Paul Ehrlich, director of the Royal Institute for Experimental Therapy at Frankfurt-am-Main, in Germany. We are unable to give the cause of his death, an occurrence totally unexpected in this country. Doctor Ehrlich was relatively a young man, having been born March 14, 1854, in Strehlen, Silesia; thus being only a little over 61 years of age at the time of his demise.

Ehrlich was of Jewish parentage, received his academic education in the University of Breslau, later taking the degree in medicine at Strassburg. As a student, it is said, he was not brilliant, probably because even in the beginning of his career he had begun to specialize upon the particular branches of physiologic chemistry with which his name has been so prominently identified during later years.

Probably no man who has adorned our profession during the last half century has contributed more of practical value to the development of medical science than has Paul Ehrlich. Three things of the utmost importance in the healing art are associated with his name, the first of these, in point of time, being the side-chain theory of immunity. After that, there came the standardization of the dosage of diphtheria-antitoxin; while, the third, and last, was his discovery of salvarsan. Although these three discoveries, on their face, seem to be totally separate and distinct, as a matter of fact they are closely allied, all of them growing out of Ehrlich's conception of the body-cell as something distinctly chemical in character and structure and subject to the same possibilities of forming combinations with other substances as the benzol ring itself.

Ehrlich's theory of immunity has done more, perhaps, to change our concept of the nature of infection and to modify our ideas relative to the methods of combating infection than has any discovery heretofore made. The marvelous advances in biologic medicine and Ehrlich's adventure into the realm of the *sterilisatio magna* all hang upon the verity of this hypothesis.

The death of Doctor Ehrlich will be felt as a great loss to the world.

THE SUBTLE MISCHIEF OF SURGERY

Writing upon the relation of mouth infection to systemic disease, Martin H. Fischer, in *The Lancet-Clinic*, makes this significant statement:

"Of thirteen cases of trifacial neuralgia, which Fletcher (of Cincinnati) studied, he relieved twelve by proper treatment of infections about the teeth. I always like to compare with this record that of some of my surgical friends who have handled the same distressing condition in other ways. A popular method with them is, to pull out the fifth nerve by its roots. In other words, the telephone bothers them, so they rip out the line. They have other ways also of handling the situation. Instead of recognizing the true origin of the trouble and locating it, as is commonly the case, in the teeth, the surgeons kill the nerve or they paralyze it with alcohol."

Whether Doctor Fischer meant to do so or not, he has here laid his finger upon the essential weak spot in surgery. With all due respect to the great importance and the wonderful achievements of surgery, and with a full recognition of its life-saving benefits, it must be admitted that, except in the case of certain mechanical conditions—in which it is, of course, the sole available remedy—surgery, after all, constitutes a compromise, an expedient, a confession of weakness and ignorance. An exceedingly valuable compromise and an indispensable expedient in the present state of our knowledge, a most welcome resource in our therapeutic helplessness, it is true; but, still, a compromise, an expedient, a confession none the less.

This truth will, no doubt, be freely admitted, even by the most enthusiastic surgeon—argumentatively, at all events, whatever he may do in practice. But there's the rub. Turn the sentence around, and we shall see at once the far-reaching danger that lurks in surgery, which Doctor Fischer has so plainly brought to light. Whatever the surgeon may admit, argumentatively, as to

the compromise-character of his methods, he goes right on practicing them, as though they were in fact the ultimate and ideal procedures. And, as he practices, he refines and perfects his technic. And in this very refinement and perfection of surgical technic lies the subtle danger to real medical progress.

Astounding as it may sound to those who have been accustomed to stand entranced at the shrine of surgery, dazzled by its witchery, fascinated by its dexterity, and, above all, hypnotized by its *success*, it nevertheless is true that this very success of surgery—the ease and safety with which it is performed and the brilliant "results" obtained—is, in many respects and from the broadest viewpoint, a curse rather than a blessing to medicine. For, in the exquisite development of incredibly skilful technic, it comes about that it is a great deal easier and quicker and (for the time being) safer to amputate or excise the offending organ or part than to investigate the underlying cause of the trouble and endeavor to remove it by curative measures. Thus, all incentive to study the functional pathology and rational therapy of those conditions in which surgery is so "successful" is withdrawn and the occurrence of such conditions (as of appendicitis) actually is multiplied.

As a matter of fact, the brilliant accomplishments and the overwhelming dominance of surgery during the last few years of the nineteenth and the first few years of the twentieth century *did* set back the advance of therapeutic medicine to quite a serious extent. During that period many ingenious operative procedures were devised and many really marvelous mechanical feats were achieved in the invention and manufacture of surgical instruments; but virtually nothing was learned of the nature and course and cure of the diseases for which these devices afforded so prompt and simple a relief.

Happily, the tide has turned. Doctor Fischer's utterance is but one of the numerous signs that it has thus turned. And it is significant to observe what astonishing strides curative and preventive medicine have made in the relatively short time since surgery ceased to dominate and hypnotize the profession.

We should not be thought as belittling the value of surgery or as denying it a place of usefulness and honor. But, surgery is, or should be, medicine's handmaid, not its lord and master. It cannot, and never will, replace curative and preventive medicine. Its principles and methods—those of lopping off the stem and branch—are antagonistic to those of medicine, which aim to lay the ax to the root. Seldom, indeed, is surgery basic; medicine always is, or at least seeks to be that. As Doctor Fischer quaintly points out, to tear out the line, hardly is the rational way to remedy a faulty telephone. One can easily see how in an emergency—when, say, there is danger of firing the house—it actually might be the highest wisdom to rip out the wires, and the quicker the better. However, such a procedure scarcely can be commended as the routine method of dealing with faulty electric systems.

"He that hath ears to hear, let him hear."

The Poet Riley sings of fall, and the strutting turkey cock,
"When the frost is on the pumpkin, and the fodder's in the shock;"
Of the crisp and hazy landscape, and the sunshine over head;
Of the stubble and the straw-stack, and the reaper in the shed;
Of the poultry in the barn-yard, and the appetizing air;
Of the furries and the meadow, and the sermons that are there;
Of the "pictur" that no painter has the colorin' to mock,
"When the frost is on the pumpkin, and the fodder's in the shock."

—Dr. H. C. Bennett.

EMETINE IN TYPHOID FEVER

Everyone should read Doctor Carriger's little article, published elsewhere in this issue, in which he gives his experience with emetine in typhoid fever. Doctor Carriger has recently treated four patients by the method advocated by Frazier, as described some months ago in *The Medical Record*, of New York. There is little doubt as to the correctness of the Doctor's diagnosis, the symptoms described being typical of typhoid fever. The results obtained were as gratifying as those reported by Frazier, the course of the disease being cut down to less than a week in every one of the four cases in question.

Last month Doctor Burkard, of Omaha, gave his experience with one case of typhoid fever treated with emetine, and he likewise succeeded in jugulating the attack. While recognizing, of course, that a single experience is of comparatively little value from a statistical point of view, the fact that in even this one instance (in which the diagnosis, verified by the Widal test, was unquestionable), the disease responded so amazingly to the emetine treatment, should be sufficient to inspire every physician with interest

enough to give this alkaloid a careful trial at the first opportunity.

We hardly can hope that emetine will prove a "specific" in typhoid fever. In all human probability, it will fail utterly in a certain percentage of cases, and it may possibly prove of comparatively little value in a very large number. Nevertheless, if the success obtained by others with this remedy even remotely approximates that reported by Burkard, Carriger, and Frazier, we have added to our armamentarium a remedy of exceeding importance.

In spite of the promise of emetine, no physician should think of treating any typhoid-fever patient without simultaneously resorting to the remedies that have been tried and found true. And, while there are many such of demonstrated value, there is nothing that surpasses the sulphocarbolates in this disease. This has been the experience, not only of ourselves, but also of the thousands of other physicians who have learned to rely upon this remedy.

We suggest trials with emetine, in the hope that we may be able to add one more to such a remarkable group as that containing the sulphocarbolates, the Bulgarian-bacillus cultures, and the typhoid-bacterin. Who can, and will, report on emetine?

There is but one rule of conduct for a man—to do the right thing. The cost may be dear in money, in friends, in influence, in labor, in a prolonged and painful sacrifice; but the cost not to do right is far more dear; you pay in the integrity of your manhood, in honor, in truth, in character. You forfeit your soul's content, and for a timely gain you barter the infinities.

—Henry Ford.

"GETTING TOGETHER" INSIDE THE MEDICAL PROFESSION

Even her enemies concede that Germany's strength lies in her wonderful system of organized cooperation, in which each unit is utilized to the fullest extent of its specialized value, for the advantage of the whole. And if, as is asserted in various quarters, one of Germany's purposes in going to war was, to spread her system and methods among the nations of the world, then I am inclined to think that she already has accomplished her aim to the extent to which such an object ought to be accomplished—for, of course, such a system has its dangers as well as its advantages, and, at least from the Anglo-Saxon point of view, ought not to be adopted as a whole. However, there is in that system much that might profitably be copied by our more happy-go-lucky workers; and, as I have said, Germany has actually succeeded—maybe by a little different process than she intended—in planting these ideas of hers on other soil; for, in many of the nations, including even her enemies in arms, the admiration of her efficiency is leading men to examine her methods thoroughly, with the object of picking out what seems really good in them, and to copy it.

There are signs that this spirit is beginning to permeate even the medical profession of this country. The physicians of Valparaiso, Indiana, have organized themselves into a co-operative association, with the object of reducing all the impedimenta that are attending their individual efforts to a minimum and of raising their efficiency to a maximum; for the advantage both of themselves and of their clientele. The association will use one common reception-room, while each member maintains a private consultation office. The common quarters will be provided with such accessory facilities as pertain to the common necessities of the members, such as an electrical and radiographic room, laboratory, drugstore, and library.

"In all lines of human endeavor," says the spokesman of the combination, in announcing the plan, "men are coming together in groups—working, studying, economizing, specializing, effecting more perfect organization—thereby delivering a more efficient service. The medical profession, like other agencies, has tended toward organization and specialization. Doctors are beginning to realize that organized service is more efficient than individual service." And he might have added that the public is beginning to realize it, too, and to demand and to patronize organized agencies of service.

One of the advantages of this arrangement, of course, will be its economy, without any impairment of adequacy. As the representative of the Valparaiso association points out, the practice of medicine today requires larger financial investments than ever before, and there is an ever-growing number of indispensable scientific inventions. Few physicians, working alone, can afford the equipment that really is necessary for thorough, efficient service.

By the plan here put into operation, this expense involved will be pooled among the members of the group, without in the least subtracting from each man's individual equipment, but, rather, amplifying it. In addition, the "operating-expense" of practice will, likewise, be pooled—office rent, telephone, clerical

work, bookkeeping, collection of bills—thereby not alone reducing each man's financial burden, but insuring a much more systematic and satisfactory conduct of all this routine detail.

Important as this economic aspect of the matter is to the physician himself (and far be it from us to belittle its importance), the plan embodies a still larger and more pregnant significance in its relation to the public. As I intimated at the start, these Valparaiso physicians have wisely adopted only the useful elements of this organized cooperation-idea.

In the scheme, as they purpose to carry it out, there will be no suppression of individual effort, but, on the contrary, this side is to be accentuated; for, the nature of the arrangement not only permits, but it inevitably promotes, the development of each individual member's personal *forte* to the highest degree of specialized efficiency and its exercise to the fullest and freest extent in his practice. The collective work of the group will naturally fall into a logical and selective division of labor, in which each one individually will soon find himself doing only the special particular kind of work for which he may be best fitted, leaving the other branches to those other ones better qualified respectively in the other departments. Thus the public will derive from the plan the immense advantage of specialized skill at the minimum economic cost of service.

"Finally," explains the spokesman of this group, "we are human. We have to eat and want to live, and we hope to lay up enough in store to be self-sustaining in old age." Which, after all, is not a *wholly* selfish ambition, either; for, the building up of a competency that shall make one self-sustaining in old age cannot be regarded otherwise than as a definite contribution to the stability and prosperity of the community.

Here, then, is a splendid example for the profession at large. Why, come to think of it, the Germans have no patent on the idea, for this journal has frequently urged upon physicians the general desirability of this very plan which our Valparaiso friends are now engaged in working out in detail. Great credit is due to them for this departure. They have broken ground. They have exhibited a wise daring. Instead of standing helplessly around, bewailing the hard times and the high cost of living, they have taken the bull by the horns and met the demands of the hour.

The Valparaiso doctors are right. The time *has* come when medical men, like those of every other industry, *must* "come together in groups, working, studying, economizing, specializing, effecting more perfect organization, and thereby delivering a more efficient service." It is the only way to aline oneself with the all-powerful, all-sweeping *Zeitgeist*. These men in Valparaiso are showing the way. Who will follow?

It is characteristic for misanthropic critics to blame us for preserving inferior individuals, but not to object to wholesale destruction of strong men. For the strenuous foolhardiness which still sees virtue and happiness in warlike enterprises, forgets that by war the flower of the land's men, and not weaklings, are killed or rendered invalid or demoralized, and that the lower strata of vigor remains behind to multiply, and to transmit their own diseases or physical inferiority or predispositions. No infectious disease ever left the people in as low a physical, moral, and economic condition as does a war of equal duration or ferocity.—Abraham Jacoby.

A QUACK'S EPILEPSY CURE

While we may, and do occasionally, take exception to some of the things published in *The Journal of the American Medical Association*, in the name of "reform," there are many more things which we can heartily endorse. Thus, in the number of the *Journal* for September 4, there appears an exposure of "Grant's Epilepsy Cure," a secret nostrum disposed of to the laity by an advertising physician of Kansas City, Missouri.

Regarding this remedy, Grant says that "There is nothing injurious to the system in this medicine"; and yet an analysis of the mixture, made in the Association's laboratories, shows that each teaspoonful contains approximately 10 grains of potassium bromide, while the directions on the bottle call for "two teaspoonfuls after breakfast and the noon meal and three teaspoonfuls on retiring." In other words, potassium bromide is given in this remedy—which contains "nothing injurious"—in a total daily dosage of 70 grains. That the indiscriminate administration of such large quantities of this powerful drug to people of all ages and conditions is perilous in the extreme, is shown by letters, received from physicians, which the *Journal* prints.

While there may be occasions when medicinal agents of unknown composition may properly be recommended for lay administration, it will certainly be admitted by everyone who knows anything about such things, that powerful sedative drugs like potassium bromide, poisonous drugs like strychnine and arsenic, and narcotics like opium and its alkaloids, cannot be included in this category.

The Association is to be commended for letting light into the methods of quacks and

crooks, and for showing the dangers inherent in the indiscriminate sale of remedial agents of this character. It is to be hoped that the medical profession will see to it that exposures of this character are given proper publicity among the laity.

THYPOID-FEVER PROPHYLAXIS

We hope that every reader of CLINICAL MEDICINE will look up the short article upon the prophylaxis of typhoid-fever, which we are printing this month in the department of What Others Are Doing. In this article, the United States Public Health Service submits evidence as to the value of prophylactic anti-typhoid-vaccination, demonstrating conclusively that there no longer is any question as to the efficiency of this expedient. Being of definitely proven value, it is one of the things that no physician should ignore or neglect.

The importance of anti-typhoid vaccination needs to be brought home to every member of the medical profession at this time of the year, when the disease is prevailing widely in many parts of the country. The time is coming shortly when health-bodies everywhere will follow in the steps of the North Carolina State Board of Health, which even now is advocating, and practicing, the vaccination of whole communities in the old North State. What are you doing in your vicinity?

No man can be both a dreamer and a man of action, and we are called upon to determine what role we shall play in life when we are too young to know what we do.

—Richard Middleton

A WAR SILHOUETTE FROM POLAND

A peasant-hut in Poland—seemingly ready to collapse—straw thatching—one low dark room of 9 × 14 feet, with one door so low that a medium-sized man must stoop to pass through, and one wee-small window, the equally small panes of which are patched together with brown paper—beaten clay floor—open tile hearth in one corner—stall with two sows and a dozen chickens adjoining and reached through a connecting door—such is the field "hospital" for the sick soldiers, described by one of three Austrian military surgeons occupying it for an indefinite stay, that is, for as long as the nearby trenches are held by these forces. We find this account in the *Militaerarzt* for March 13, page 79.

The only other occupant of this stately "hospital" is the elderly peasant-woman owning this miserable human abode. The "bed" of these tired, overworked men in the service of humanity is a bit of worn straw, malodorous from the moisture of the ground and from having long served many other preceding brothers in arms as mattress; the three Red Cross men sleeping stretched side by side in a narrow space beside the hearth. A cheap, smoky, stinking oil-lamp furnishes "light" for first-aid work during the late and early hours of the winter-months. The old woman does some cooking and also gives aid as a nurse.

As the day's work begins and the suffering men come streaming on to seek aid, not more than two at a time can be admitted to the "lazareth," while the "waiting-room" for the rest is under the blue, or, more often, the drizzling celestial dome, and the miserable creatures, victims of a civilization gone stark mad, while waiting their turn stand ankle-deep in the mud and filth surrounding the hut. "And thus we three have been spending here a number of weeks; we three landsturm doctors who, a few months ago—or was it years or decades, the time peace reigned still in these lands—had no thought of exchanging their specialized practice, prosecuted for many years, with military activity in uniform."

Here they come, day after day, the same typical cases: catarrh of the air-passages, catarrh of the digestive apparatus, all forms of rheumatic conditions. And, by the way—so the narrative runs—the instant the doctor puts on the uniform, he must change many of his ideas and accustomed practices; a metamorphosis, we are assured by the author, many a one finds difficult or even impossible.

For the sick soldier in the field, especially during the cold of winter, hygiene and sanitation are of greater importance than are drugs, generally speaking, but these very things often are almost unattainable; the men, laden to the limit of endurance, are tired, but may not rest; they are wet through and through, but can not dry their garments and shoes; they are cold, but protection cannot be had; they should be in bed, but must remain in the ranks and sleep on the rain-drenched ground; the doctor prescribes a sick-diet, but they must eat whatever coarse food is available, and at whatever hour; they are threatened with punishment for drinking aught but sterilized water, but men parched with thirst will defy the world and suck the dirty, disease-infected fluid from a mud-hole.

How, then, pray, can the doctor help? Wonder above wonder that the armies of today, recruited from what we like to consider a decaying humanity, are not decimated, annihilated by disease rather than by the enginery of war! And, yet, we are told that those men actually are gaining in robustness (the greater proportion); and, who knows, the survivors of this cruel man-hunt actually may inoculate our daily life with a more sanitary mode of living.

The worst enemy, as the author points out, is humidity, and the trench-existence is a thing of horror. "One must have lived in such a trench to realize how illusory are all attempts at keeping dry in rainy weather. From all sides the water rushes in, and nowhere can one find a spot to sit or kneel down without getting the clothes soaked through; even the blanket in which the man rolls up for a rest soon is thoroughly saturated. For three weeks, and longer, the entrenched enemy troops lie opposed, drenched by continuous rains, and without a chance at action. No possibility there for the men to get out and exercise—they dare not expose themselves—and all the while the nerves at highest tension. The field kitchen cannot venture to make the needed visits, the food grows scarce, the water-flasks are empty, and the frantic men drink the water in which they have been standing for who knows how long, water befouled (at least indirectly) with their own excrements. Any wonder those men get sick?"

And here is the sad, the tragic feature of this whole sad, tragic business. Says the anonymous writer, from whose account the military censor erased numerous passages: These men are offering to their fatherland the highest that one can give, the soundness of their bodies and their very lives; the medical man finds them suffering, knows what could and should be done for them, knows that those things recounted in the beginning would set them right again; but, with aching heart, the doctor finds himself thwarted—dry quarters, rest, warmth, hot drinks and regulated diet, none of these can be provided, except for a few, sometimes.

"Full well knowing the utter futility under the circumstances, the doctor prescribes a few medicaments—together with a dietary that cannot be provided—and the man suffering from a gastroenteritis is told to return to his company; or, another, having an attack of influenza and a fever-temperature, is put on a bunch of old straw on the floor of the unventilated space underneath the straw-thatched roof (reached by a rickety ladder), and after a day or two he also is ordered back to the ranks; or, yet another, whose every muscle aches and pains because of the exposures, gets a little massage and a dose of a salicylate, and is told that he, like the others, must consider himself fit for the strenuous work of a field-army and to serve as fodder for the cannon's mouth. 'You are needed at the front, men, you cannot be spared. So, *allons enfants!*' "

Awful is that strife without, the whistling of the bullets, the howling of the shrapnels; but more awful than it is the strife in the earnest physician's soul, of him who longs to help and succor, but whose arms are paralyzed by insuperable conditions.

Though I have been trained as a soldier and participated in many battles, there never was a time when, in my opinion, some way could not be found to prevent the drawing of the sword.—U. S. Grant.

VACCINATION-TETANUS

It may be, as oft asserted, that Truth is immortal and can not be destroyed. Be this as it may, the unkillableness of Error is a thing one does not have to demonstrate. Under constantly developing new forms, the ancient falsities that formed stumbling-blocks for our faraway forbears keep on resurrecting with hydra-like persistency.

When Jenner announced protective vaccination as a principle, his claims were received with incredulity. No wonder. The discovery opened up a new line of human knowledge, and there was not at the time a solitary fact in the world's ken with which it harmonized. But gradually it won credence, except with the sturdy opponents who did not intend to be convinced and were not convincible. And these unprogressives have left us many descendants.

The tactics of the antivaccinationist are uniform. He makes sweeping statements, vivid in their coloring, then calmly leaves us to disprove them. Not a scintilla of proof does he deign to proffer. He gravely tells us that vaccination is "the mark of the beast" mentioned in Revelations, and tells us to disprove it if we can. However, when we can get him down to dots, we have a chance; so, when he refers to tetanus as caused by vaccination, such a chance is open. Not that he cares a doit—he drops that point and goes on to another, without a trace of care or conviction.

The Public Health Service has studied this tetanus-problem and worked it out with its customary precision. Thus, from 1904 to 1913 over 31,000,000 vaccinations were performed in this country. In 41 cases, tetanus followed. One distributor disposed of 209,000 doses of virus within a period when five cases of vaccination-tetanus occurred in this country. In a part of these tetanus-cases, the Government secured unused portions of the virus the use of which had been followed by tetanus. This virus was examined in the Hygienic Laboratory in ways that made it impossible for any tetanus-germ to escape. None were found.

In the army and the navy, 585,000 men were vaccinated, and among these 6 cases of tetanus followed. The vaccine, in every instance, was found to be uncontaminated.

In the 41 tetanus cases above mentioned, the time between vaccination and the outbreak was 20.7 days; the mortality was 75.2 percent. But, with this mortality, the known period of incubation is only ten days. This throws the beginning of infection into the period when the vaccination-sore is open and discharging, hence, liable to contamination.

Then the Hygienic Laboratory took up a question that rationally might have been the starting-point, namely, Can tetanus be transmitted in connection with vaccination? Rhesus monkeys and guinea-pigs—both susceptible to vaccinia and to tetanus—were vaccinated with virus known to contain tetanus-germs. Most of the vaccinations "took," but not one of the animals contracted tetanus. It has yet to be proved that these two germs can become established side by side when present in the same medium; but, then, the antivaccinationist does not prove things, he only propounds riddles for others to unravel.

The creed of the foe of vaccination is extremely simple: anything that happens to a child any time within a number of months after vaccination was caused by that infection. Even that the ensuing malady was not infectious and is not transmittable by means of inoculation, makes not the slightest difference; it may be a runover by some vehicle or a kick from a mule—but the vaccination was followed by death, so, consequently, that must be held responsible. The following was one of many such cases investigated by this writer and is cited as a fair sample:

A child was vaccinated in school and on the next day came down with scarlet-fever. As a matter of course, the vaccination was blamed by the parents. Investigation brought out the fact that about 20 other children were vaccinated on the same day and from the same child's arm—we used humanized virus then—and not one of these had scarlet-fever, and neither did the child from whom the virus was taken. The incubation period of scarlet-fever never is so short as a single day; the child who in school occupied the seat next to the girl in question was at the time at home, sick with the same malady—that is, scarlet-fever, and was ill the last day it had been in school.

Here, the proof was complete, and there was stopped at the start what was developing into a very promising tale for the "antis." But, suppose this undeniable proof had not been available? Vaccination would have been blamed for at least a possible infection, and so gone down in print.

Ruby wine is drunk by knaves,
Sugar spends to fatten slaves,
Rose and vine-leaf deck buffons;
Thunder clouds are Jove's festoons,
Drooping oft in wreaths of dread
Lightning-knotted round his head;
The hero is not fed on sweets,
Daily his own heart he eats;
Chambers of the great are jails,
And head-winds right for royal sails.
—R. W. Emerson.

IS IT SO EASY?

In a recent comment upon a compilation of data gathered by state boards of health and state food- and drug-inspectors, in which it was declared that "fully fifty percent of the more widely used preparations do not comply within reasonable limits with official requirements," the chemist of the Maine Agricultural Experiment Station, made the following statement: "It is rather startling to find that half of the pharmaceutical preparations examined, which are as simple to make as a batch of biscuit, differ more than ten percent from the standard."

It may, indeed, seem surprising to learn that fully half of the official preparations dispensed on physicians' prescriptions are not up to the standards required by law. We feel quite sure, however, that the chemist just quoted has not placed the responsibility for this condition in the right quarter. Epigrammatic statements look well in print, but they are suspicious at all times and often they are untrue. This one assuredly is untrue—that it is as simple to make pharmaceutical preparations as it is to make a "batch of biscuit."

Anyone giving wide publicity to this impression is doing the pharmaceutical body, retailers and manufacturers as well, a great injustice.

Everyone who knows anything about the manufacture of medicinal preparations understands the very great difficulties involved in making medicinal preparations that are uniform, potent, and permanent. There are many factors that have to be considered: the raw materials must be of good quality; changes or losses during manufacture must be guarded against; dependable methods of testing must be developed; in many instances, animal-tests are necessary; manufacturing processes must be devised and elaborated; the influences of heat, light, and moisture upon depreciation must be considered; and every minute stage and process of manufacture and marketing must be watched by the eagle-eye of the "boss" who knows.

In order to turn out preparations that can be depended upon to come within the 10-percent variation referred to, it is necessary that production be controlled by highly educated chemists, pharmacists, pharmacologists, and by various other technical specialists. To produce pharmaceutical preparations of the standards now required, not alone involves careful scientific supervision, but large investments in equipment and machinery. It is practically impossible for the retail pharmacist today to improvise even the common or "garden-variety" of tinctures and fluid extracts from crude drugs with any expectation of accuracy, and, as for dispensing, extemporaneously, his own pills and tablets of delicate chemicals and powerful alkaloids in accurate dosage with the ease involved in "making a batch of biscuit," why, this is fully as difficult as for our Maine chemist to predict what is going to happen to the Czar and the Kaiser during the next sixty days.

Furthermore, galenic preparations are, from their vary nature, variable, changeable, and uncertain. We doubt whether anyone, no matter how skilful, can make up tinctures of aconite and of digitalis that will uniformly come within the 10-percent dead-line of the official standards—and remain there for six months. A variation of 25 to 100 percent in the preparations offered by good concerns is not at all uncommon. Look up Hale's report on digitalis, and Robinsons' investigation on aconite. (Read the editorial in last month's CLINICAL MEDICINE, page 799.)

The simple truth is, that our chemist is skating on thin ice. The problem of pure drugs is a far bigger one than he intimates, and, in a snap-diagnosis of the ailment, he has not been quite fair to a great industry.

At this point, my secretary interrupts my dictation to remark that "Mr. Chemist evidently doesn't know much about making biscuit—it isn't everybody who knows how."

I suspect that the young lady questions my own technical training in this direction. It is true, there is a vast difference between the sodden and indigestible samples of inspissated dough falsely and feloneously designated as "biscuit" in some quarters, and the flaky wheaten confection so delicately fashioned by the feather-light fingers of some New England or Virginia housewife of "the old school." Her biscuits are as white as a young girl's neck, as easily digestible as flattery, and as delicious as first love. Eaten with Vermont maple-syrup of the "first run," they seem to be transmogrified, without intervention on the part of the stomach, into the undiluted milk of human kindness!

Did our Maine chemist have *this* kind of biscuit in mind? If so, we apologize!

Now forget your haste, just for a second or two, let go pushing the train you are riding in, stop trying to do all your work at once; and perceive how deliberate, how regal, how indolent your soul is, how sure of itself, how indifferent to the petty chances of punctuality or accomplished toil.—Bliss Carmen.

A WAR-TIME OPPORTUNITY

Gauss and Kroenig have presented to them the chance of a lifetime. Taking it as true that they possess that faith in the method of twilight anesthesia attributed to them by the magazines, they have a far wider field than that afforded by an obstetric clinic.

Men are being shot down by the tens and hundreds of thousands. Many of these suffer painful wounds, and are left perhaps for days without any but the most primitive first-aid dressing. The surgeons are with the hospitals in the rear, well out of harm's way. Many a wounded man may die of his injuries, and especially of hemorrhage, before he reaches the distant source of aid. It is obviously impossible for a surgical depot with skilled anesthetists to be away up in the front.

But the surgeon or a qualified assistant may be there; and, armed with hypodermic syringe and vials of the hyoscine-morphine anesthetic tablets, be ready to administer the remedy promptly. To relieve suffering and, through the mydriatic, check hemorrhage, surely that is worth while. Even in this gigantic con-

flict, such an expedient means a sparing of enough danger and suffering, a saving of enough lives, to make the suggestion worth while.

We know that many American surgeons, if confronted with this problem, would think at once of hyoscine and morphine.

Men of breeding, sometimes men of wit,
T' avoid great errors must the less commit.
Neglect the rules each verbal critic lays,
For not to know some trifles is a praise.
—Pope.

OVERWORK AS A CAUSE OF SUICIDE

Every little while we hear of the suicide of some man or woman—usually a young man or woman—and the report of the case, as we read it in the daily press or as it is told by relatives and friends, states that the act was attributable to overwork, by which is meant, of course, excessive mental work on the part of the deceased. No one ever is heard to have committed suicide because of excessive physical work; and especially is this the common verdict in cases where the suicide happens to be that of a young man or woman who was attending school or college at the time of the tragedy.

We do not accept this popular notion that excessive brain work leads to suicide. To begin with, the class of persons who commit suicide are not, as a rule, the kind of individuals who give themselves very strenously to brain work. History and experience both testify that the real brain-worker rarely kills himself. Why, indeed, should he? The man who works with his brain has a sphere of life that is all his own—"his mind to him a kingdom is." Within this glorious kingdom he is absolutely supreme; neither time nor money drives him, because neither time nor money have existance in his realm. His is an orderly, leisurely kingdom, containing none of the pressing practical problems that drive men to despair.

But there is another, more scientific reason why excessive brain work is unlikely to lead to suicide. Our remark, interjected above, that nobody has ever been known to commit suicide from excessive physical work, may have sounded like a cynical sneer. It was, in fact, a most significant comment. It is a truism that physical labor, no matter how hard or continuous, of itself drives no one to self-destruction. Not even when pushed to the limit of utter exhaustion, of fainting, of collapse, does physical toil of itself incite any desire to kill oneself. There undoubtedly have been those who, worn out with ceaseless and hopeless toiling, have given up the battle in sheer bafflement of spirit; but that was a moral and spiritual exhaustion, not a physical one.

If this be true, why should we suppose that mental work, no matter how prolonged or arduous, should arouse a desire for self-destruction? For mental work does not even have the monotony and dead hopelessness that many forms of physical work have. There are always results from mental labor, or it is not labor. And no man seeks death while he is getting results.

The fact is, there is a great deal of nonsense talked about this matter of overworking the brain. The purely intellectual capacity of the brain cannot be overworked. No man's power to think can be impaired by exercising that power. That which we loosely call mental break-down is the overstraining of the physical tissues, especially the arteries and nerves, in a primarily defective body. In an otherwise normal person, physical tire will stop brain work long before the latter reaches even the point of fatigue. The real cause of ninety-nine percent of the suicides is temperamental, not mental, and is rooted in biological defectiveness.

Do it yourself—don't look nor wait for a pull. You remember the pathetic parable the greatest of all teachers has left us, of the paralytic who waited year after year at the pool because he "had no one to put him in when the water was troubled." He continued a wretched paralytic. Don't wait for help or pull—jump in or roll in; fall in some way—but get in.—Henry Ford.

WHAT ARE THE "USEFUL" DRUGS?

For some years past, a movement has been on foot to restrict the instruction in materia medica in our medical schools to a relatively small number of drugs and preparations. The desirability of such restriction is discussed by Martin I. Wilbert, in *Public Health Reports* for August 27. Mr. Wilbert speaks as a representative of the Council on Pharmacy and Chemistry of the American Medical Association, which for several years has been weighing this problem and endeavoring to bring about an understanding between the faculties of the medical schools and the state medical examining and licensing boards.

Heretofore the principal obstacle to the restriction of instruction was due, on the one hand, to the fact that "teachers in materia-medica subjects in the medical schools felt that it was necessary to impart a smat-

tering of information in regard to a large number of drugs and their preparations, because members of state medical examining and licensing boards were likely to ask questions regarding them," while, on the other hand, members of the examining boards "thought it desirable to ask questions regarding the many thousands of official and nonofficial drugs and preparations because teachers in materia-medica subjects referred to them in their lectures and discussed them in their textbooks."

Such a lack of understanding between teachers and examiners naturally led to an impassé, which, it appears, has been dissipated at last through the efforts of the subcommittee of the Council, of which Mr. Wilbert is a member. This subcommittee has prepared a list of "useful drugs," upon which, it is assumed, instruction in our medical schools hereafter will be concentrated. This list "includes 450 titles, of which 231 may be classed as drugs and chemicals, 173 as preparations, 43 as definitions of forms of drugs, and 13 as cross references." Physicians taking state-board examinations, it is expected, will be examined only upon the drugs and preparations included in this list.

The effect of this restriction, it is hoped, will be more thorough instruction in materia medica in our colleges, since it will be possible to concentrate upon a comparatively small number of drugs. No doubt a student can be thoroughly grounded in the properties and uses of a few remedial agents, at least, as a result of this narrowing down of the course of instruction.

We are in sympathy with this movement. One great defect in our medical schools at the present time is, the superficial character of the instruction in materia-medica. The average student gets only a mere smattering of knowledge of even the most common drugs. Many schools provide no practical clinical instruction whatever in therapeutics, except what is furnished as an adjunct to the chair on practice. Good laboratory-courses in pharmacology are provided by many institutions; but, unfortunately, such instruction, being given, as a rule, by men with little experience in practice, is nihilistic in its tendencies and discouraging in its outlook. Instead of intensifying the faith of our young men in the remedial agents which they must use, there is placed before their mind's eye a striking picture of the ineffectiveness of therapeusis in general and of drugs in particular. Any change promising to arouse the interest of our medical students in drugs and teach them how to use the tools of their trade more intelligently is to be welcomed.

It is to be hoped, however, that this movement is not part of a general propaganda designed to restrict the number of drugs that the physician shall "ethically" use. We want no narrowing down; rather, we want a broadening out of our materia-medica. Just because a drug is an old one, and has been in use for centuries, is not evidence that it is of any particular value; but neither should the fact that a drug is new prevent its being studied and used and advocated whenever it gives promise of doing things that other drugs heretofore have not accomplished. It is entirely proper to teach medical students to understand a few drugs, and understand them thoroughly—that's good work; it is logical, it is right—but physicians who are out on the firing line should constantly be seeking to improve their methods of treating disease. When they are handling conditions that do not respond to the usual methods of treatment, and somebody or something comes along which promises cure, that is the thing which should be used, providing it does not endanger the life or the health of the patient.

We firmly believe that the day is coming when, as a result of this broadening-out process and this intensification of interest in our materia-medica, the alkaloids—the active principles—will come into their own and be honored as they never were before. Active-principle therapy is right; it is scientifically sound and practically effective, and all it needs for general adoption is, the interest, sympathy, and support of the men of our colleges, many of whom are big and broad, and all of whom should be sincere, earnest students of drugs and actual observers of disease.

DOCTOR ROBINSON'S ARTICLES ON THE PROSTATE GLAND

In a brief editorial notice appearing in our August issue, we announced a series of articles on the prostate gland, to be, contributed by Dr. William J. Robinson, of New York City. We have now been informed by Doctor Robinson that he will be prepared to begin these articles with our issue of January next.

This series promises to be exceedingly interesting and, above all, practical. Bring this announcement to the attention of your medical friends. This is only one of the many good things that have been planned for 1916.

Proper announcement will follow later.

Leading Articles

Urinary Analysis in the Treatment of Nephritis*

By B. G. R. Williams, M. D., Paris, Illinois

EDITORIAL NOTE.—It is not often that we reprint in "Clinical Medicine" articles originally published elsewhere. We do so, in this instance, because we believe Doctor Williams' paper on Nephritis of the greatest interest and importance to every general practitioner, and are anxious, therefore, that our subscribers read it.

"The master key to the door of Hope
May be held by you or me,
But pray what use is this master key
If withheld by you or me?"

SINCE man has ministered to man in his bodily affiictions, just that long has man studied these afflictions from as many points of view as could be devised, well knowing that only with perfect understanding comes perfect service.

I am not to blame for the subject upon which I have prepared myself. Your program committee merely notified me that I had been put down for this title, and I suppose that I am expected to give a good account of myself. The subject is a unique one, and one which I trust will not prove an altogether unfortunate selection.

You will realize in the first place that it does not permit me to copy a paper from the journals and text-books, but forces me to theorize here and there and finally relate to you my observations.

We must assume that Bright's disease has been diagnosed in our patient, either by symptomatology or laboratory methods, and that we are ready to plan our treatment. In what way will the uranalysis aid us to save his life, or make him as comfortable as possible until he succumbs?

Or will the uranalysis, in fact, provide any therapeutic indications whatsoever?

A study contrast may be wise before investigating the therapeutic indications; and it may be well for us to roughly classify the various methods of treating nephritis:

In class one, we must place the much to be desired specifics. Various specifics for nephritis have been suggested, some based upon empirical and others upon rational grounds. It is a safe guess that hundreds of "sure cures" have been proposed, tried out and abandoned, and about the only ones remaining are those which are advertised in the newspapers.

In the second class come the symptomatics. Far be it from me to overlook the value of the symptomatics. We must not forget to treat the dyspnea, psychoses, cardiac complications, hemorrhages, diarrhea, nausea, headache, edemas, etc., as well as the unusual concomitants of diseased kidney.

Into a third great class fall the very important dietetic measures. These are based in turn upon indications suggested in part by either or both the symptoms and laboratory finds. Unfortunately, in the past they have been somewhat empirical, but there is a tendency to drift toward rational views. Nowadays we do not deny to the nephritic many of those foods upon which we formerly frowned, while others to which we tied our therapeutic hopes have shown some serious shortcomings.

Without further ado let us proceed to the great fourth class of indications—those suggested by the uranalysis:

Amount

The total 24-hour quantity of urine is of great diagnostic importance, but it is doubtful if we are justified in treating the polyuria of chronic interstitial nephritis. It is probable that the patient will be actually harmed by any measures aimed to reduce the total quantity. In the oliguric nephritides it may be advisable to increase the quantity of urine. In the selection of diuretics it may be well to warn ourselves that those which attempt to whip the renal cells into increased exertion, should be avoided. Thus, from a theoretical standpoint at least, caffeine, theobromine,

*Read by invitation before the Clark County Medical Society, June 10, 1915. Reprinted from *The Illinois Medical Journal*, September, 1915.

diuretin and other renal diuretics should be avoided, and we should fall back upon water prescriptions or the cardiac diuretics, as digitalis, strophanthus, etc. It seems to me that a severe oliguria must be considered quite as death-dealing as cardiac insufficiency or any other severe aspect in the clinical history. When day after day the amount of urine rarely exceeds one pint, it is evident that not enough water is present to hold in solution and carry away the necessary urinary solids. We speak of the serious outlook in those cases where there is urea or chloride retention, but give very little attention to what is perhaps the chief cause. I shall have something to say upon acid retention or fixation in the renal cell. If I should place a drop of sulphuric acid upon the skin of my arm and permit it to remain six hours, there would result a severe injury. But if I place the same drop upon my arm and add to it a single drop of water, the injury will be much less; and if I repeatedly add water the injury will be slight indeed.

I have referred to water prescribing. It is not sufficient to tell the patient to drink plenty of water. It is much better to prescribe it in sufficient dosage to be taken at regular intervals. I will have occasion to refer to this a bit later when speaking of Fischer's alkaline treatment.

Even as polyuria is perhaps not to be treated, and even as oliguria should be treated, so anuria, a complication of frequent occurrence, *must be treated.*

Anuria, or complete absence of urine for several days, is always a condition of considerable importance, notwithstanding the many contradictory statements in texts. That anuria without uremia may persist for a considerable period, I will not gainsay, but how unexpectedly convulsions and fatal coma may suddenly appear, has been realized by all of us. The kidney has for its purpose the secretion of urine; let this purpose be thwarted, and the condition may at any time quickly pass beyond the action of remedial measures.

Let me repeat: anuria is always a serious occurrence. Even though the patient laughs at your painstaking; even though the texts tell you that Doctor So-And-So reported a case where the patient recovered after a two weeks' anuria, do not fail to resort to the use of hot packs, pilocarpine and elaterin.

It has been said that anuria cannot be held responsible for the symptoms of uremia. Common sense shows the stupidity of such a claim. Of the nature of uremia, we know very little, but clinical experience convinces us that it must be very closely associated with anuria. Do not underrate anuria.

The color, odor and general appearance of the urinary specimen may mean much to the diagnosis of nephritis, but there is no logical reason for their therapeutic correction.

The specific gravity is of some importance in connection with the total quantity of urine. In other words, the total solids are of some importance, especially a marked reduction. But I would say in general that quantitative studies of the urea, chlorides, and so on, are likely to give more definite and usable information, so that we shall pass on hastily.

The Reaction

The reaction of the urine in nephritis is rarely normal. That is, we rarely find a slight acidity due to acid salts, but either an intense acidity or a marked fixed alkalinity which persists from day to day. These findings have confused us in the past, but since the wonderful studies of Fischer, we have come to understand them. All nephritides are acid in origin. These acids are variously derived, some from proteids in the process of decomposition. Thus, either from proteid foodstuffs in the colon or from body proteids in local suppurative processes, our contribution may come. These acids are of organic derivation and are essentially poisonous. Their presence in the urine gives it its high acidity. In the process of passing through the renal parenchyma the kidney cells are injured, but retain the acids in part. At some stage in every nephritis, they refuse to further excrete the acids and either retain them in their protoplasm or force the blood to carry them elsewhere. Then the urine becomes alkaline and usually remains alkaline until death. Let us turn our attention to one of the causes of nephritis and show how nephritis may be cured by careful uranalyses undertaken early in the disease.

Among the acidemias that of colonic stasis is most important. We speak of the condition as intestinal acidemia, or copremia. In certain persons, as a result of constipation, excessive ingestion of proteids, enteroptosis or unknown causes, certain bacteria in the colon attack the proteid foodstuffs, breaking them up into organic acids and other decomposition products, and these are absorbed and appear, at least in part, in the urine. We do not know the exact composition of all these acid bodies. Among them have been found carbolic acid, indolacetic acid, acids of the sulphur series, hydrocyanic acid (?), paraoxyphenylacetic acid and paraoxyphenylpropionic acid. Be-

sides these are the true indicans, which I shall consider later. Indicanuria and hyperacid urines have about the same meaning. Both conditions may occur at the same time.

Let us pass by the headaches and other symptoms of copremia with the remark that they are but the initial symptoms of the Bright's to follow, and study the action upon the kidney. In all cases of indicanuria and highly acid urine due to intestinal acidemia, we are very likely to find traces of serum albumin and hyaline casts. This does not mean at this time a hopeless nephritis, but it does signify that the injury to the kidney is consequential and must be checked. In fact, we will observe an attempt upon the part of the tissues to combat the acidemia, but the attempt protects the tissue cells other than those of the kidney. In other words, the ammonia of the urine is increased at the expense of the urea, because the alkaline precursors have united in part with these poisonous acids, that the fixed alkalies of the tissues may be spared, but this does not protect to any extent the protoplasm of the ultimate secreting renal unit. Of course, the total nitrogen is unaltered, but the urea is low, and this low urea must not be taken as an indication of retention—cannot be, in fact, if the other estimations are made and considered.

Before proceeding to a consideration of the other poisonous urinary hyperacidities, let us look into the treatment of copremia, the cause of perhaps seventy-five per cent of all cases of chronic nephritis.

There is an old caution, "Examine the urine in every case of persistent headache."

There is a better caution nowadays, not only better from many other standpoints, but especially for the reason that headache may occur a bit late in nephritis, "Examine every man's urine at least once or twice a year whether or not he complains of symptoms." Of course, this cannot be done in the majority of cases, but it does not lessen the value of the advice, for I am convinced that these forms of nephritis can usually be cured long before symptoms appear.

The man who hopes to treat intestinal acidemia by a course of alkalies alone will occupy a position similar to that of the boy who tried to drink up the water from the leaking dam. The man who hopes to accomplish noteworthy results by the administration of a single cathartic will be but little better off. Both of these methods are not without value, but there are other principles which must be carried out if any degree of success is expected. Only a week or so ago, I heard Fischer's alkaline treatment condemned by a local physician in no uncertain language, but he had depended upon a neutralization of consequences rather than attack upon causes for his success, a principle which clings as closely to the mind of the average practitioner as did the old man of the sea around Sinbad's neck.

Treatment of Copremic Acidemia

As a whole, the treatment of copremic acidemia may be expressed catagorically as follows:

1. Reduction of the proteid diet.
2. Elimination of the focus of the intoxication.
3. Administration of antacids.

Obviously the main problem will lie in eliminating the focus of intoxication. But how?

A preliminary cathartic is necessary, and since we are dealing with the colon, this obviously must be a saline. Then should follow a course of laxative alkaline salines, to insure a strict housecleaning in this natural incubator. This may be coupled with the intelligent use of efficient intestinal antiseptics. We know that these will not murder every erring germ; nevertheless, much may be accomplished in this direction.

Then, after a week or so, we cease giving the antiseptics, but continue the laxatives—we are ready to substitute a well-behaved germ. Yeasts appear to be of some value, but the most efficient policeman of the colon appears to be Metchnikoff's bacillus bulgaricus; and this I do not hesitate to say, judging from my observations in hundreds of cases, will act almost as a specific when backed by proper attention to the other principles of treatment. The urinary reaction will become normal, ammonia will sink and urea rise, indicans will disappear. Albumin will disappear from the urine unless the case has gone too far, casts cannot be found, vertigo, nausea, mental torpor and headache will clear up, the complexion will become better and appetite will be regained. In other words, we have cured a case of nephritis. We have held and used the master key to the door of Hope.

Of antacids there is no lack and they may be carefully used along with the treatment devised to eliminate the focus of intoxication.

Now and then this line of treatment may fail or must be continued indefinitely, excellent though it has proven in the majority of cases. What is the trouble? Examination will reveal that an enteroptosis or other anatomical condition exists favoring stasis; and here

we must call upon the surgeon to help us out. As a rule these cases may be reached by proper dietetic and medicinal measures. I know of one case of so-called neurasthenia in which a trace of albumin and many hyaline casts brought home to the attending physician and myself the fact that this neurasthenia had an organic basis. High acids, high ammonia with normal nitrogen and indican gave us the clew. This victim of enteroptosis was, I sincerely believe, rescued from the grave of a nephritic by the fact that two rapidly succeeding pregnancies, by some means certainly mechanical (as supporting the colon), took care of the condition and the strain was removed from the kidney parenchyma. What this woman now needs is either an operation or another pregnancy.

Why Treatment May Fail

In previous papers I have insisted that an acidemia may exist by virtue of necrotic changes in the tissues themselves. The findings in the urine are similar to those detailed above. Indicans are less frequently found. The breaking up of the body fats may add the fatty acids, those poisons recently shown by Tallquist and Vetlessen to be essentially hemolytic in nature (explaining, perhaps, the severe anemia associated with some of the nephritides); still the picture of high acids, constant nitrogen and ammonia overbalancing the urea is not unlike that noted in the copremic acidemias. The blood examination will reveal an iodophilia and set us searching for the focus in a necrotic tumor, localized pus, tuberculous exudate, and the like (lardaceous kidney), in all cases there being truly an excretion of poisonous proteid-decomposition-products via the urine.

All of which will explain why proper attention to the colon does not always clear up an acidemia. Now, it has been known for many years that hidden suppurative processes, though of a low grade, may lead to nephritis, and though the theory has been popularized by Billings and others, no special credit is due these men, but it is rather to our discredit that we once learned and again unlearned the lesson. Perhaps the theory was carried too far at the time. At any rate our attention is again directed to the nasal sinuses, tonsils, teeth, lymph glands, lungs, gall-bladder, appendix and so on in our search for the factory where the poisonous acids are made. I have seen instances where the removal of a decaying tooth was followed not only by beneficial results as noted by the appearance of the patient, but a vicious-appearing urine promptly became normal. If the focus cannot be found, we should at least use neutralizing antacids to spare the kidney parenchyma as much as possible.

Serum Albumin

We have seen above that a trace of albumin may be loosed into the urine when the renal cells are forced to excrete poisonous bodies. This brings us to the entire question of albuminuria and its significance.

When a slight heat and nitric-acid precipitate cannot be explained by nucleoproteids, Bence-Jones body, calcium sulphate, and the like, or when such coagulum is marked or persistent or both, we are dealing with true serum albumin, a finding which is never physiological.

Serum albumin may be derived in part from the blood, escaping through the glomerulus by virtue of general or local alterations in blood pressure, injury either to the endothelium or secreting epithelium, or occur from unknown reasons. It may be derived from the kidney cells by virtue of retrograde changes.

The albuminurias have been variously classified. The only class with which we are concerned is the "renal albuminuria." To prove a true renal albuminuria, several rules must be kept in mind, to-wit:

1. The albumin must be serum albumin.
2. The albuminuria must be persistent or nearly so.
3. The other serum albuminurias must be ruled out.
4. The presence of cylinder casts, cells from the uriniferous tubules, and so on, argue for true renal albuminuria.

How shall we treat renal albuminuria?

We have touched upon the logical treatment of the incipient cases, and there is no better treatment for the more progressive cases of albuminuria. *Clean up the focus of poison manufacture.*

We must do more in the more progressive cases of albuminuria, and a few principles are here suggested.

All of this serum albumin does not come from the kidney, but much of it from the blood; and it is probable that the patient does not have this albumin to spare. It is in just such cases that lecithin and nuclein, administered for prolonged periods, prove peculiarly efficacious. In acceptable form they provide exactly the reconstructive material demanded by the discouraged cells, and the remote metabolic wrong being corrected, the drain ceases.

There is abundance of clinical proof that an active preparation of cactus grandiflorus,

through its influence upon the heart and circulation, materially improves nutrition and reduces the output of albumin. Many well informed and observant therapeutists prefer cactus to any other preparation, as digitalis, in such cases.

It may then be advantageous to treat the albuminuria by aiming our efforts at the blood pressure; investigate the heart and arteries, and give digitalin (or cactus) or glonoin, with elaterin or milder laxative as indicated, and the albumin of circulatory origin will be held back except in so far as released by diseased kidney tissue. I know of no way to prevent the excape of circulating albumin when the renal substance is already destroyed; we certainly cannot hope to check it by attention solely to the heart and arteries.

Can we decrease the serum albumin resulting from cloudy swelling of renal cells and the ultimate plasmolysis consequent upon it? I think that we can; in fact, Fischer apparently proves that this process is directly due (except, perhaps, in mercurial nephritis, and the like), to a storing up of acids in these cells and injury to the protoplasm. Thus the indications (other than the prevention of acid elaboration where possible) are clear for dilution and alkalinization. In other words, we must prescribe water and alkalies freely if we hope to decrease the albumin from this source. This will explain why alkaline remedies, given with copious drafts of water, often produce such marked benefit in the earlier stages of nephritis.

Remedies of Special Value

But as yet we are clutching only at the fringes of knowledge. We know something concerning nephritis, but some particulars of the pathology are not yet clear. And how may we successfully treat a disease until we know its pathology? We have shown that the measures aimed at avoiding acid fermentation and neutralizing those acids or else diluting those already formed comprise the rational treatment of albuminuria. But we are justified, in the absence of complete pathological knowledge, in turning to certain remedies now regarded as empirical, but which tomorrow, when our research workers have cleared up this baffling field, stand best chance of a place in our rational list. Of these special mention is to be made of the active principle of the bear berry—a grain an hour at first, and, when the albumin drops lower in daily excretion, to give a grain every four hours thereafter. Now I can say very candidly that I have never seen any one remedy clear the urine of albumin in so many cases as does the bear berry, and I have seen it tried upon a large number of cases, usually in connection with the fight upon the acids.

A couple of months ago I saw two cases of nephritis secondary to influenza in which the bear berry was not satisfactory. The physician claimed excellent results in some of these cases with an active iron. We did not secure the proper preparation at the time, but used instead a proprietary preparation of iron with excellent results. After giving the iron, the bear berry completed the clearing of the urine.

Epsom salt is advised upon empirical grounds, not by mouth, but as follows: A tub is filled with hot water previously saturated with epsom salt. The patient sponges quickly so that the salt solution comes into contact with every particle of the skin. Immediately he deserts the water and rubs or is rubbed briskly with a rough towel. This treatment is not applicable to the more serious cases because of the exercise.

In a Nutshell

Let me hastily review the treatment of albuminuria as such:

1. Prevent, if possible, acid formation.
2. Dilute and neutralize all acids the formation of which cannot be prevented.
3. Keep the blood pressure and heart action as perfect as possible.
4. Bear berry and active iron are, in my experience and observation, most excellent empirical remedies.
5. The epsom bath is good in some cases.

This is all I shall have to say concerning the treatment of renal albuminuria as such. Not enough, perhaps, but my observation is that one line of treatment persistently followed often accomplishes much more than a "running hither and thither." I have seen tuberculous infection conquered by a monotonous routine of months; I have seen leukemia held in check and apparently cured by pushing one drug for a year. I have seen a man with pernicious anemia poisoned with arsenic which incidentally added years to his life. I have seen whooping-cough, the disease of a thousand remedies, cut down to a week or so, from discouraged Osler's six weeks—"and by a bottle of something better than paregoric."

The text-book tells us to try a little of this for a short time, and if we do not succeed we might try a little of something else. Now, I do not treat patients, but I have seen several cases of albuminuria treated, and my advice is: give each remedy a fair trial. Albuminu-

ria does not appear in a day, nor can it be cured as quickly as that. The methods suggested in this paper are not claimed to be the best. You may know of a much better way of treating renal albuminuria, but do not be discouraged if spectacular results are not witnessed within a few days—aye, a few weeks.

A Few Words as to the Diet

I cannot well undertake the dietetic consideration of the various nephritides as suggested by other laboratory findings, by symptoms and by signs, but rather from the standpoint of albuminuria. What effect, if any, does diet have upon the albuminuria? You will see that I have accounted in part for the albuminuria by cell death, but in part from the blood, and I may get into pretty deep water if my treatment does not cover other causes.

I am told that excessive ingestion of proteids may increase the serum albumin in the urine, and observation in special cases would lead me to suspect that this is true.

What of it? Must we in consequence withhold proteids from our patient when he needs them to take the place of those albuminous bodies passing away in his urine? This would be extreme. Precipitin tests may show dietetic albumin in the urine, but precipitin tests do not give percentages. In fact, dietetic albumin may be present in amounts of 1 percent, serum albumin from blood and renal cells up to 99 percent. No, we have not yet proven that a renal albuminuria is an alimentary albuminuria.

Scalia has shown that when egg albumin is injected subcutaneously there may be an induced albuminuria in nephritics. But Scalia has proven nothing pertinent to the great question. Upon a mixed diet including eggs, no reliable research worker has conclusively shown that the urine of a nephritic shows egg albumin in appreciable quantities. Krasnogorski has shown that the albuminurias of infancy contain no specific groups characteristic of the dietetic proteids, but that the bodies are derived entirely from the tissue albumins.

In chronic albuminuria the indications are somewhat different from acute nephritis. In the latter the fight is short and dietetic measures may be rigid. But how may we expect to lengthen the lives of our chronic nephritics by starvation? I have seen these patients, taught by some quack or some short-sighted physician, test their own urine for albumin day after day, cut down their own miserable existence or make life almost unbearable for their friends. Quantitative albumin estimations are of some diagnostic worth, but of little prognostic value.

A mixed diet is necessary for the nephritic, and this diet must contain certain proteids—milk, eggs and even meats (especially the white meats). An absolute milk diet may be advisable in acute nephritis, but never in chronic nephritis, in that it is too rich in albumins.

Albuminuria may better be treated from a dietetic standpoint, not by eliminating proteids, but by doing away with kidney poisons—alcohol, red meats (kreatinin), and condiments, especially sodium chloride, of which I will speak later.

Some Other Albumins

I have given so much time to the indications supplied by albuminuria of the serum type, I must hasten over the other albumins without comment.

Urobilinogen is important, inasmuch as it suggests a very useful therapeutic test in the complicated cardiac-hepatic nephritides where we are not certain of therapeutic indications and which is the primary condition. I cannot otherwise go into the question of the significance of urobilinogen, a pigment which means much in the liver diagnoses. Under digitalis treatment the disappearance of albumin and urobilinogen points to primary heart disease, the disappearance of urobilinogen alone to hepatic disease and the disappearance of albumin alone to primary renal disease. I am very sorry that I have not the time to enter fully into urobilinogenuria.

Bilirubin

When bilirubin appears in the urine of nephritis, the outlook is serious, for bilirubin is more poisonous to the renal cell than is an organic acid. The toxic desquamation of pigmented cells furnishes the proof. The treatment, of course, depends upon the cause of the bilirubinuria and cannot be considered here. Undoubtedly many cases of chronic parenchymatous nephritis are directly due to prolonged or severe bilirubinemia.

Carbolic acid, indican, indolacetic acid, and the like, have been considered under the subject of acidity.

Chlorides

A high sodium chloride content in the urine of any nephritic suggests reduction, for we know that retention, either in part or entirely, is more likely to occur; and that this salt retention favors edema, dyspnea and other complications. At a certain point in almost every case of nephritis, the kidney cells excrete

weakly or not at all the superfluous salt. Knowing now as we do of the law of salt equilibrium, we do not hesitate to exclude as nearly as possible all salt in these late cases. The salt is excluded at the dining table. It is excluded in the kitchen. We have even gone further and selected foods of a low salt content, especially milk, though we must keep in mind the caution concerning milk mentioned above. So, rather than suggest any one perfect salt-poor article of diet, we usually advise a diet mainly of milk and milk products, chicken, eggs and vegetables, avoiding especially other meats.

Phosphates

The irritating action of phosphates in large quantities upon a diseased parenchyma has been pointed out by von Noorden and others. It is impossible, where true or clinical phosphaturia complicates nephritis, to expect much from diet, inasmuch as phosphoric acid is so well distributed in our foods. But von Noorden has shown that calcium carbonate added to the diet precipitates the phosphates as insoluble compounds, and they pass through the intestinal tract unabsorbed and consequently the renal cell is spared the duty of eliminating them.

Urea

A low 24-hour excretion of urea is taken as evidence of renal retention of that salt. It is not stored in the renal cells so far as has been demonstrated, but is kept in the blood and excreted by the other emunctories. Thus it may be demonstrated in the perspiration, and perhaps in the feces (?). The indication is in part, therefore, to call upon these for extra work in case of urea retention. We know of no means by which it may be increased in the urine late in nephritis, urea being of itself the most perfect diuretic. It is advisable, of course, to reduce the proteid diet to just what is necessary, not because urea is poisonous, but closely related bodies may be very toxic. We must not forget that low urea in every case of nephritis may be explained in part by the acidemia, the ammonia being used in part to neutralize acids or acid action and that low urea is in part explained by failure of elaboration. But we know that urea retention does occur, or else urea would be excreted by the proper route instead of by the skin, lungs, and the like.

Cylindroids

Nephritis is not diagnosticated by the finding of cylindroids. Without any attempt at definition and differentiation, I will say that the cylindroid does furnish a therapeutic indication in nephritis. The false cast means a sluggish flow of urine through the tortuous secreting kidney tubule. But it is interesting to know that down through the animal and vegetable kingdoms, one of the laws of health is prompt removal of products of excretion. It may be true that even at Bowman's capsule there was a water paucity and a solids overplus; cells down the line may be reabsorbing the watery portions—upon all of these points we cannot definitely commit ourselves, but nevertheless we have to face the fact that the flow has been retarded sufficiently for a mucus cast of that uriniferous tubule to be formed. The treatment is that apparently of hastening the flow through the kidney, and dilution. Consequently water prescribing or even the use of mild diurectics may be indicated.

Casts

The treatment of the cast matrix is essentially the treatment for renal albuminuria, it being fairly certain that hyaline is very closely related to serum albumin. It is not in all cases an excreted albumin, but often the remains of a microscopic extravasation into a uriniferous tubule.

Granules and cells are extraneous to the cast pathology and their attachment or inclusion accidental. Therefore, the treatment differs. Cells and granules represent desquamation and retrograde changes respectively and the indications are those suggested by finding the renal cells in the urine.

Kidney Epithelium

I have been hurrying over the indications somewhat more rapidly than their importance justifies and I ask you to let me go more fully into the meaning of the kidney cell, the most important of all finds. Kidney cells occurring in the urine in considerable numbers or persistently, are a matter of deep concern to the therapeutist. The pathologist tells us that the cell from the uriniferous tubule when lost is not regenerated, and that its neighbors must take upon themselves the work of the lost one or else this work be left undone. Whether the poison be bacterial, bilirubin or acids, it may slay the renal cell and it floats away into the urine forever. Other cells, as in the shower of contracting kidney, are mechanically dislodged.

But the toxic desquamation is the more common type and death is brought to the ultimate secreting unit merely because it retains the poison, being unable to pass it on. These renal cells of ours have hard tasks set

before them in their span of three score years and ten, but after all a cell is a living mass of protoplasm, and no matter how great the specialization, all living matter may be killed. Of all factors, poisonous organic acids are chief, no matter where these acids may be formed—we know very well the focus in most cases. Just as there result cloudy swelling, coagulation necrosis and granular disintegration, so do these acids often pick upon the cement substance first of all, dissolving it, so that the cells are no longer bound to the membrana propria, but slip into the current and are lost forever. And the finding of protoplasmic granules, nuclear remnants, granules in casts, tiny fat droplets or renal cells, all have the same significance.

I have spoken of the focus and the desirability of its elimination, even though too late to repair the damage to an extent sufficient for a return to health. But nothing should be omitted which promises hope of prolonging life or making more comfortable the remaining days of the unfortunate.

It may not be the fault of the family physician, but rather the ignorance and carelessness of the *patient*, that he is dying of Bright's.

Although merely a neutralizing treatment, we must not forget the alkalies. In acid retention, as indicated by the uranalysis, I can do no better than to repeat the recommendations of Fischer:

"Acid intoxication is itself proportional to the concentration of the acid; and this must be kept as low as possible. This can be done by giving water. The administration should be regular. The night administration of water is as important as that throughout the day, for the production of toxin does not stop with nightfall. If the water contains an alkali of some sort so much the better. If the patient will tolerate it, one-half to one gram of sodium carbonate may be added to each glass of such alkaline or plain water."

Nephritis may be cured. It may be cured, explains the physician, if patients would present themselves for a diagnosis before it is too late. But we have learned from our research workers that abnormal urinary states with indefinite symptomatology precede the typical and hopeless symptomatology by many months. As a matter of fact, these patients *do* present themselves for treatment in the curative stage in a very great number of instances; and I hesitate not to place the responsibility upon the shoulders of the physician rather than the patient. While we treat our patients for headache, indigestion, insomnia, neuralgia, and the many indefinite symptoms, the kidneys are being slowly eroded away by a urine in which can be demonstrated with ease poisonous organic acids, high ammonia, falling urea, the indicans and the first evidences of retrograde changes —the faintest trace of serum albumin and occasional renal cell or hyaline cast—all these at a time when proper remedial measures would not be in vain.

And when the typical edemas, dyspneas and psychoses appear, it is too late for correction.

Do not forget the urine when diagnosing: do not forget the urine when treating.

Do not forget the uranalysis in nephritis. Do not forget the uranalysis in any of the minor disorders which may be but warnings of the hopeless Bright's to follow.

In 1857, Barclay made the following remarks:

"When inquiring with some minuteness into the changes which urine undergoes, we will find that in very many instances its abnormal states are dependent on disease of distant organs, by which the function of the kidney is merely interfered with." The proposition is not a new one.

And it is for the correction of these abnormal states I make my plea, for in their correction lies our sole hope of curing nephritis.

The Treatment of Sick-Headache

By Beverley Robinson, M. D., New York City

EDITORIAL NOTE.—Doctor Robinson is one of our master clinicians—a man from whom we can all learn much. We take great pleasure in presenting his fine article on "Sick-Headache" to our readers.

TO ME, as to very many practitioners, the treatment of migraine, or sick-headache, has been unsatisfactory. Very many remedies have been tried, and at times one or the other has seemed successful for a while. In the end, however, we still have this very painful and disabling affection confronting us, and the patient still seeking relief or else almost disheartened and unwilling to go on trying new remedies. I have had patients who did almost everything, in the hope of getting cured. Eyes have been examined and treated for errors of refraction or weakness of accommodation. The displaced uterus has been put in order with pessaries. Operations have been performed upon the womb, such as that for retroversion, or mending a torn cervix. The stomach-specialist has tried his hand with washing the viscus, examination of the gastric contents, administration of bismuth magmas, and maybe radiographs. The osteopath has had his day, as has also, finally, the ultrabeliever in spa-treatment.

In a pronounced case of sick-headache with auras (especially visual), when there is a throbbing, splitting headache, accompanied or followed by nausea or vomiting, these attacks returning periodically at more or less regular intervals, and not infrequently without any assignable rational cause, everything fails to prevent the return of the attacks, the victims suffering during many successive years, sometimes almost their whole life. It is true that in the case of some women—and also men—toward middle life these paroxysms of pain become less frequent and milder, and then the treatment last employed (if there was any) gets the credit for the amelioration or, if so it be, the cure.

The Various Types

The following are some of the varieties of migraine I have met with, apart from those to which I already have referred.

First, there is the married woman who has had several children and has been bothered by household cares, besides a husband who is not always appreciative of the wearing conditions burdening his wife. These wives are of two kinds. The one is quick, energetic, of spare build and clever of mind. In her case, errors of diet, except perhaps in moderate degree, do not exist. As a rule, she does not overeat or delight in rich dishes; she does not drink strong tea or coffee or take wine at meals. Usually she will not, or can not, stop her daily work until she is obliged to do so. The first thing she does, when compelled, is, to go to bed in a darkened room and try to be as free as possible from noise or interruptions. She does not want food, and does not take it unless forced to. A little cologne-water, bay-rum, vinegar or spirit of camphor is used to bathe her temples; occasionally a modified mustard-leaf or a hot-water-bottle is put on the back of her neck for a short time. Now, all this is very well, but it should be supplemented by her taking an effervescent mixture of bromide of sodium and caffeine, in fairly large dose (20 grains of the former and 1 or 2 grains of the latter), to be repeated twice. The proprietary bromocaffeine I often have found, in an emergency, very useful in diminishing the pain of the paroxysm and also, perhaps, its duration. Gentle massage of the scalp, temples, and forehead may be helpful, if done with skill by one who knows how.

Not only in these cases is local massage treatment of service during the attack—particularly when the sharpest pain has subsided—but it is curative, as I know, when nodular thickening, and resulting pressure, of some of the superficial nerves of the 5th pair involved exists.

Next, there is the type of married woman, with husband, children and home, who is somewhat obese, indisposed to physical exertion, freely indulgent of sweets, sauces, and tea and coffee. In her case, the medical treatment for her recurrent sick-headaches should, first of all, be directed toward the stomach. Frequent doses of milk of magnesia, bismuth, mixture of rhubarb and soda, will tend greatly to quiet things. At times, however, merely an attack of vomiting, very painful though it be, will give some relief, which a subsequent good sleep may complete.

Some Expedients Giving Relief

In the two classes of patients here described, the face may be pallid, the pulse slow, and the arteries indicating spasm and a

small supply of blood to the brain. Here, a nitrite of amyl pearl (3 minims) broken in a handkerchief and inhaled may break up the arterial spasm rapidly and bring relief, although at first, for a few moments, the pain in the head will be increased.

When different expedients have failed, and the attack is one of great severity, nothing will give the relief that can be obtained from a hypodermic injection of morphine and atropine, beginning with 1-8 grain of morphine and 1-150 grain of atropine. There is no use giving it by the mouth, as the dose invariably upsets the stomach and does not ameliorate the distress. Of course, no one realizes more than do I all that has been said against the morphine-habit and the unpleasant after-effects of that narcotic. On the other hand, it certainly affords relief in some instances when nothing else will, unless it be a few preliminary whiffs of chloroform.

The best and least objectionable salt of morphine I have found to be the bimeconate; it is better than the customary sulphate. Being rarely used, however, it may be somewhat difficult to obtain in places. This salt was made known to me, years ago, by the late Dr. Charles Carroll Lee, of New York, and he had been told of it by his senior partner, the late Dr. George T. Elliot. Both these men were very distinguished practitioners. The use of morphine and atropine in migraine was upheld also by the late Doctor Jewell, of Chicago. His article on the treatment of headaches, in *The Journal of Nervous and Mental Diseases*, of 1881, is one of the best and most practical I know of.

Headache in the Plethoric

Another kind of victim of sick-headache is the full-blooded, somewhat plethoric man, who eats abundantly and too much meat food. As a rule, he does not take much exercise and his brain-work is insufficient. The essential thing for him, in addition to rest and quiet, is free evacuation from his bowels. The best means to this end is a pill-mass composed of blue mass, grs. 3; compound extract of calacynth, grs. 5; extract of henbane, grs. 2; and made into two pills or capsules. A hot mustard-footbath also will afford relief. Furthermore, a little bloodletting from the arm or leeches to the mastoid region would be sovereign, if it were permissible nowadays. In these cases, morphine should not be given, if it can be avoided. The application of menthol and cologne-water, or a mixture of menthol, salicylate of methyl, and camphor, to the temple, behind the ear or to the back of the neck may be tried. Also, a mixture of phenacetin, caffeine, and salicylate of ammonium may be given, in a capsule. Unfortunately, the stomach may reject this. In that case, a handkerchief tied tightly around the forehead and an ice-bag applied to the head possibly may bring relief. In extreme cases, even here morphine and atropine, in small doses hypodermically administered, is our last and best reliance.

Means to Prevent Recurrences

How shall we ward off the repetition of these attacks or lessen their frequency and severity as much as possible? Evidently, all great strains of the nervous system should be avoided. Overwork mentally, anxiety, exposure, too much physical exercise, all will help to precipitate an attack. The monthly periods in women should be regulated, and at these times women must keep quiet and rest as much as they can.

The stomach, however, sooner or later is the great immediate offender in many instances, and for this reason there must be insistence upon a simple, moderate diet. No sauces, rich dishes, sweets, strong tea or coffee, or alcohol should be allowed, for a time, in any event, and until a habit is broken up and the patient may be able to recognize the good effects of abstemiousness and care. No doubt, in obstinate cases, a course at a spa (such as one might get at Carlsbad, Hamburg, Wiesbaden, Vichy), when properly applied, at times works wonders. In the case of some of these patients, such treatment may secure comfort for many months. A spa-treatment may not, however, do better than the sojourn at a peaceful, quiet summer-resort, where life in the open air and early hours, with plenty of sleep, are adhered to.

The use of electricity in any form, the prolonged taking of cannabis, the ordinary tonics of quinine, iron, and strychnine occasionally are useful to anemic women. For the fullblooded man or woman having the costive habit and a congested liver, I have found phosphoric acid and taraxacum, with a very little nux vomica added, preferable.

This contribution might readily be lengthened, but even as it is I trust it may be suggestive and helpful to the practitioner who has not yet grown old in harness.

In conclusion, I would urge the great importance of not laying down too many rigid rules about diet and regimen. The human animal is various, and difficult to understand clearly both in his physical and mental make-

up. A wise, judicious empiricism frequently is more valuable and lasting than any newer knowledge that proceeds solely from the laboratory or the hospital-ward. In many ailments, one learns the practice of medicine by repeated trials of different agents, with or without a well-thoughtout theory to back them up. When theory does not conform to results of experience, I, for one, insist that theory should give way and take a back seat.

A Form of Heart Disease

Due to Disease of the Gall-Bladder

By Bayard Holmes, B. S., M. D., Chicago, Illinois

THE heart is subject to at least three forms of disease: (1) The interior mechanism of the organ becomes disturbed, and the valves fail to meet and close exactly. This is valvular disease. (2) The nervous mechanism of the heart is disturbed, so that the timing of the auricular and the ventricular contractions is not synchronic. This is the condition which the electrocardiograph now is so wonderfully demonstrating and interpreting. (3) When the heart-muscle is intoxicated, or poisoned, we have the third form of heart disease. Here, the valves may be perfect and the nervous mechanism undisturbed, and, yet, the patient be on the road to die because of a diseased heart; namely, myocarditis. In some degree, inflammation of the cardiac muscle occurs in every general toxemia if sufficiently prolonged, but it shows a remarkable tendency to appear (which often happens quite suddenly) in the course of chronic gall-bladder disease, or cholecystitis. Probably more than one-third of civilized men and women some time during their lives have more or less mild or severe attacks of inflammation of the gall-bladder.

The bile that is secreted from the liver-cells passes through the bile-ducts downward toward the intestine. These bile-ducts are lined on every side with mucous glands, and these mucous glands add their secretion to the bile, producing a colloid mixture of thick consistence, and this pours into the duodenum during the process of digestion, while backing up into the gall-bladder during the intervals when the stomach and duodenum are quiescent. Further, the gall-bladder itself has a lining of mucous membrane, and in the healthy person is provided with fifteen or twenty mucous glands situated close to the cystic duct.

Myth of the Disinfecting Power of the Bile

There has been a tradition in medicine that the bile was so strongly antiseptic and germicidal in its action that microorganisms could not grow in it. More recent experiments show that this is not so. Nearly every pathogenic microorganism, from the typhoid bacillus to the streptococcus and pneumococcus, will grow in the healthy bile.

In the course of infectious diseases in which any microorganisms are to be found in the blood, the same organism may be found in the secretions of the liver. The bile contains the typhoid bacillus during an attack of typhoid fever, it contains the pneumococcus in the course of pneumonia, and it contains the streptococcus of puerperal fever during that condition.

Whenever the bile contains a microorganism that has been extruded from the blood into the liver, the same organism can be found in the gall-bladder. The tide of bile which pours into and out of the gall-bladder generally carries away the multiplying harmful organisms of the bile, and so, in the course of a few weeks or a few months after an attack of pneumonia or typhoid fever, the gall-bladder is completely free from those germs by this fractional method of sterilization. However, it occasionally happens, either through some defect of the valves of Heister, that guard the outlet of the gall-bladder, or through some infection of one or more of the mucous glands at the mouth of the gall-bladder, that this fractional sterilization does not fully succeed, so that the gall-bladder, for a long time or for the rest of life, will continue to harbor the organism causing the primary disease. It is in this way that the typhoid-carriers (so exploited by the newspapers) eventuate. These persons had recovered some time in the past, of typhoid fever, their attacks having been of the ambulatory type.

Cholecystitis and Cholelithiasis

During the time that the gall-bladder is infected and replete with the growing pathogenic microorganisms, the mucous membrane, which ordinarily is very thin and almost entirely devoid of secreting glands,

becomes greatly thickened and its whole interior becomes lined with adventitious mucous glands, every one secreting a large amount of colloid mucus containing infinitesimal globules of highly polarizing cholesterin. This material frequently crystallizes about a clump of agglutinated microbes. The crystallization goes on week by week, month by month, and year by year, and in this way produces the gallstones, which latter are, erroneously, looked upon as the disturbing element, instead of as the product, of the disturbance of the gall-bladder.

Gallstone-disease, or cholelithiasis is a terminal condition and is almost unworthy of being distinguished by a nosologic term. Treatment should not be instituted for gallstones, but for the infection which produced them. However, gallstones are not the unvarying result of infection of the gall-bladder; in fact, there is every reason to believe that they are one of the exceptional manifestations of the disease, and their chief interest lies more in the fact that these concretions so positively confirm a diagnosis of cholecystitis.

The time was, not so very long ago, when a diagnosis of gall-bladder disease was made only when the cystic duct had been stopped up by a gallstone and the patient suffered from agonizing biliary colic, chills, fever, and localized tenderness in the hepatic region. Such a diagnosis was analogous to the diagnosis of appendicitis after the outlet of the appendix had been obliterated, the appendix ruptured, and a periappendical abscess formed. The diagnostic skill of the medical profession has advanced to such an extent that conditions of this kind now are rarely seen about the appendix, but many physicians still wait for the colic, the pain, the fever, and even the jaundice before they make a diagnosis of gall-bladder disease.

While cholecystitis is almost a uniform sequel of typhoid fever and other septicemic conditions, we have learned to recognize that infection of the gall-bladder as well as that of the appendix frequently follows an infection of the intestinal tract higher up. Thus, a chronic suppuration in one of the sinuses of the nose or even of the ear is likely to be followed, not alone by gastric ulcer or appendicitis, but also by cholecystitis. In some way, the chronic infection, in the duodenum, creeps up the common duct and secures a foothold in the gall-bladder, or, what is equally probable, the bacteria escape from the tonsillar lymphatic system into the vascular system and then are eliminated through the portal system and hepatic veins into the bile-ducts.

Toxemic Myocarditis

In these two ways, then, the infection of the gall-bladder is initiated, but the result of the infection often remains very slight or obscure for months or even years. Like lead poisoning, however, the infection of the gall-bladder under certain circumstances is productive of a toxemia, which, cumulating, eventually terminates in a remote, selective and localized, disturbance. In one instance, this chronic intoxication may show itself as a neuralgia of a single nerve or it may manifest itself in the form of herpes zoster; but, either from the character of the toxin or the disposition of the tissues, one very common manifestation is that of myocarditis. The heart withstands the infection for a long time, then suddenly breaks down and gives evidence of dilatation, and we see dyspnea and arrhythmia.

During the past fifteen years, I have reported upon a large number of cases of this kind, and they were encountered in persons ranging between 28 and 72 years of age. The symptoms have been those of a very mild and chronic toxemia, associated with slight anemia. The leukocyte-count generally has been above normal, but not much more than 12,000 or 15,000. A rise of temperature never has been conspicuous; sometimes it is below normal and sometimes half a degree above normal. A high degree of blood pressure does not always accompany this condition, although as a rule the pressure is in the neighborhood of from 160 to 180. Frequently the patients are troubled by drowsiness, especially after a meal. They are unmindful and ignorant of their real condition, until a sudden dyspnea appears or until fluid accumulates in one of the serous cavities. Then they consult a physician in regard to their shortness of breath.

An Illustrative Case

In order to illustrate this condition by concrete examples, I will recount two extreme cases, in their manifestations as well as in the outcome.

The first case is that of a man, 28 years of age, who had been operated upon by me for a large localized periappendical abscess, in 1894. It was necessary to remove the appendix and drain both sides of the abdomen. The patient recovered rapidly. During the following seven or eight years, this very active man had frequent attacks of dyspnea and palpitation of the heart. Four years

after his appendicitis, I made for him a diagnosis of chronic cholecystitis and urged drainage of the gall-bladder as the only rational procedure, but he refused consent. During the following years, he had one or two attacks, each year, of cholecystitis, there being pain, tenderness over the gall-bladder and occasionally an attack of vomiting. I saw him quite often in these attacks, and every time I discovered exquisite tenderness over the gall-bladder, and each time I recommended drainage of the gall-bladder.

During all these years, the man complained less of the attacks of the pain than of the almost daily attacks of dyspnoea and palpitation. Not until 1905 did he exhibit signs of jaundice after the attacks of abdominal pain. The later attacks had been so violent that he had received hypodermics of morphine from a neighboring physician, treatment I never was willing to give. Finally, in an attack, he consented to an operation to be performed next day. So, I gave him a large dose of morphine subcutaneously shortly after midnight.

The operation was done by making a 1½-inch incision over the perfectly palpable Riedel lobe, bringing the gall-bladder into place and fastening it to the upper and lower corner of the wound with two catgut stitches, opening between the artery-forceps, evacuating several hundred calculi, then placing drainage-tube, 4 inches long and of a diameter of one's little finger, and fastening it in place with a single silkworm-gut stitch. The operation was completed, under gas-oxygen anesthesia, in less than fifteen minutes on a Monday afternoon. The patient walked out of the hospital Friday afternoon of the same week, in order to be present at the anniversary-day of his wedding, invitations for this having gone out before the operation was contemplated.

Following the operation, drainage was continued for three months, during which time the cardiac dulness diminished in breadth, from 5 1-2 inches back to the normal. The dyspnea and palpitation disappeared and never have shown themselves since. The man rapidly put on weight, and has been perfectly well during the last ten years.

In this instance, the source of the primary infection of the gall-bladder doubtless was the same as that of the appendix. It was either from the patient's teeth or from his tonsils; although not impossibly it may have resulted from an infection secondary to the periappendical abscess.

Quite different is the history of a second, and recent, case. This was a man 68 years old, an active business man, who had not been sick during all his life (so far as can be learned from the anamnesis) until six years ago, when he was taken with a violent attack of abdominal pain upon landing after a voyage across the Atlantic. He had severe pain in the region of the gall-bladder, and vomited. He was sick for eight or ten days, during which time he was slightly jaundiced. Following this attack, he noticed some dyspnea when going upstairs. He began to feel that his heart was not just what it ought to be. He was assured by specialists that there was no valvular lesion; still, their treatment did him no good. Two years ago, he was obliged to stop his active life and take protracted vacations. The dyspnea, however, did not disappear entirely and he became so weak that he was unable to walk more than a few rods on the level. In spite of the most skilful attention, fluid appeared in his right pleural cavity and he was aspirated repeatedly. Under a local anesthetic, his tonsils were completely enucleated. The condition of the heart did not improve. The fluid appeared in the right pleural cavity in spite of repeated aspirations and also showed itself in the abdominal cavity.

When I first saw the patient, I was convinced that there was a chronic gall-bladder disease, because of the protrusion of the lip, or lobe, of the liver known as Riedel's lobe, this covering the tender gall-bladder. After several days of confirmatory observation, I recommended drainage of the gall-bladder under local anesthesia. Consequently, early in March the gall-bladder was drained and a gallstone the size of a robin's egg removed. The patient declared that the operation was less painful than any of the aspirations of the chest. After this operation, the condition of the heart greatly improved, and the serum did not show itself in the pleural cavity again until several weeks later, when, following a cold, an aspiration became necessary.

During the past fifteen years, I have operated upon more than 30 patients for myocarditis, draining the gall-bladder and, frequently, removing gallstones. Two of my patients died while on the table, one of them, a man of 54 years, before the operation was begun, and the other, a man of 72 years, after the operation was finished. One patient died in consequence of obstruction of the intestine ten days after a difficult operation under general anesthesia, and in which the stone was found in the cystic duct, the gall-bladder contracted and the biliary ducts

dilated. One patient died after a second operation performed, without my being consulted, eight months after the first operation.[1] In this case, I had an opportunity of performing an autopsy (the only one in this form of disease) and proving that the myocarditis was not owing to disease of the coronary arteries.

[1] This operation was undertaken for a supposed pancreatic [illegible] near the pancreas. The twist was due to a slight omental inguinal hernia which had been reduced but still remained incarcerated.

Many of my patients who were in a desperate condition when I operated, obliged to sit up all night and confined to the house for months, are now well and active.

Myocarditis brought on by chronic gall-bladder infection is not an infrequent condition, and when the diagnosis can be made and the gall-bladder drained under a local anesthetic it is practically devoid of danger and is productive of most favorable and satisfactory results.

Radiant Light and Its Therapeutics

By George Starr White, M. D., Los Angeles, California

Fellow of the American Medical Association; Fellow of the American Electrotherapeutic Association

[*Continued from page 731, August issue.*]

General Application

RADIANT light and heat should be applied to the uncovered skin. For general tonic effects, the rays should be applied to the entire body, which should be in a recumbent position. The rays of light should fall perpendicularly to the body and the reflector should come as near as possible to the skin without injuring it. To obtain the effects of the heat along with the light, the lamp should be continually moved back and forth over the area being treated. If the entire body is being treated, it seems better to treat the back first and then the front of the body.

When employing the very high candle-power lamps, the operator should wear colored goggles and some opaque substance, such as chamois-skin, over the hand he uses in stroking the body. The patient himself may stroke his body, when this is practicable, when too much heat is felt. The patient must be instructed to keep his eyes closed when they are not protected.

When the skin is very sensitive and one wishes to bring about a profound hyperemia, applying a blast of cold air through an air-spreading nozzle connected to a compressed-air apparatus is very efficient. We have had winged pieces attached to our shade in such a way that the motion of the lamp either back or forth or sideways or twisting will create a breeze over the body, thereby enabling us to bring about a more profound hyperemia, and without any discomfort to the patient, than is possible without such a device.

Another excellent method of using radiant light and heat for general treatment, to bring about rapid perspiration, is, the use of the bath-cabinet, so arranged that 50 or more incandescent lamps surround the body. If the cabinet be ventilated by holes in the bottom and top, perspiration can be brought about much more quickly than if the cabinet be tight.

Radiant light and heat are being satisfactorily employed, in connection with concussion and other agencies, in splanchnic neurasthenia, goiter, rheumatism, gout, sciatica, lumbago, torticollis, asthma, gastric diseases, sprains, neuroses, intermittent heart, high blood pressure, kidney diseases, sexual weakness, catarrh of middle-ear, earache, tonsillitis, suppurative tonsils, catarrh of the cervix uteri, amenorrhea, dysmenorrhea, professional paralysis, psoriasis, eczema, acne, and many more conditions.

For carcinoma, we are obtaining very good results from the 2000-candle-power lamp and oxygen vapor—both employed daily.

For x-ray burns and for all forms of infection, no better antidotes are known than radiant light and heat.

I am receiving some very good reports from those who are using the 2000-candle-power lamp for treating specific urethritis and its sequels, as well as for prostatic troubles. For these treatments, the insides of the thighs are protected by means of asbestos paper, and the lamp is so adjusted that the light- and heat-rays center well upon the perineum.

I am also receiving very flattering reports from those who are using radiant light along with other methods for treating syphilis. Arc-light- and incandescent-light-baths seem to enhance the effects of mercury in the treatment of syphilis and its sequels.

Chromo-therapy

I have purposely omitted to mention in this paper the use of colored radiant light in

therapeutics, as I shall speak of it in a subsequent paper.

Several years ago, Dr. Edwin Babbitt wrote a book entitled "The Principles of Light and Color." This book is now out of print, but W. J. Colville's small book, bearing the title "Light and Color" and published by the Macoy Publishing & Masonic Supply Company (45 John St., New York City), represents the essence of this great work.

The more we study light, both white and colored, from a therapeutic standpoint, the more we are convinced that Doctor Babbitt is right when he says: "Sunlight constitutes a truly celestial materia medica more potent and enduring than any cruder elements, provided we know how to deal with it. Minerals are at the lowest end of nature's scale of forces and are so crude that their particles cannot float in the atmosphere; consequently they are held down in the bosom of the earth. The vegetable world, which contains all forms of nourishment necessary for the human body, is devoid of the coarser mineral elements, which are sifted out by a powerful and most ingenious process in nature's perfect laboratory. We cannot be hampered and confined within the narrow walls of any restricted method of practice that excludes all that some exclusive company of persons may not approve. Freedom of thought and action, within rational bounds, should be demanded by all who embark in any healing ministry, or they will soon find their usefulness painfully limited."

The more I study natural forces in relation to diagnosis and therapeutics, the more I am impressed with Doctor Babbitt's comprehensive statement, that "harmony can not be brought about until nature's affinities are satisfied."

Electric-Light-Bath Cabinets

Another excellent method of using radiant light and heat for general treatment, to bring about rapid perspiration, is the use of the bath-cabinet.

1. *Construction.*—I have found that most of the electric-light-bath cabinets are wrongly constructed, in that they are made practically airtight. We know that a well-ventilated room can be heated more quickly than one that is kept closed. I have found that there should be a ventilating-hole in the bottom of the bath-cabinet. This can easily be arranged, while the stool on which the patient sits should be directly over it. The lining of the cabinet seems best to be made of opaque glass, rather than of mirrors. From 50 to 100 60-watt tungsten lamps seem to be required.

The cabinet should be about 40 inches square and high enough so that a large person can sit conveniently on the stool, with the lid closing around his neck. There should be air-vents at the back, conveniently placed, one on each side of the patient's head. A 2-inch hole on each side of the head and a 3-inch hole in the bottom are about right. Of course, there must be holes in the baseboard of the cabinet, to allow the air to go under, unless the cabinet is placed on posts about 3 and 4 inches high. That leaves a place for the accumulation of dirt, and the cabinet

Electric-light Bath Cabinet

necessarily is quite heavy. Therefore, the ventilation can come in by a galvanized iron pipe through the baseboard to the central ventilating-hole. Such a pipe on each side of the cabinet or on the front is ideal. This pipe should be covered with a brass wire mesh. It can be kept clean by occasionally blowing through it a blast of air from the inside.

It is well to have the switches on the outside of the cabinet, so that the patient cannot operate them from within.

Actual experience seems to prove that a large volume of light, in proportion to heat, is desirable.

I prefer a cabinet in which the patient sits upright to one in which he reclines.

After having built bath-cabinets myself and experimenting a good deal with them, I have come to the conclusion that the Burdick Cabinet Company, of Milton, Wisconsin, makes the most ideal electric-light-bath

cabinet now on the market. It appears to more than meet all requirements. An illustration of one of their numerous styles is shown herewith.

2. *Therapeutic Application.*—The electric-light-bath seems to be indicated in all forms of arteriosclerosis and its sequels. All rheumatic conditions seem to be greatly relieved by the electric-light-bath. Diseases of the respiratory and urinary systems are greatly benefited by the electric-light-bath. In fact, inasmuch as light in association with heat so greatly enhances metabolism, there is no condition that is not benefited if these two agencies are employed judiciously.

As an adjunct to the treatment of syphilis, especially when giving mercury inunctions, I know of nothing better.

The fact, that in a properly constructed electric-light-bath cabinet the light strikes nearly all parts of the body at the same time, makes it very desirable.

Each period of treatment should last at least until the skin becomes moist. It can then be carried further, should the indications require it. For reducing weight or for toxemias, severe sweating is decidedly desirable, provided the patient is in a physical condition to endure the procedure. Drinking one or two glasses of cold water will increase the perspiration.

If the patient is inclined to faint easily, the application to the head of a cloth wrung from cold water will generally prevent the nauseated feeling sometimes experienced by these persons when exposed to intense heat for a while.

Immediately after the patient leaves the bath-cabinet, it is well to rub him down with Turkish towels and to spray his body with alcohol, bay-rum or other appropriate rapidly evaporating liquid. In some conditions, we have found that spraying spirit of nitrous ether on the body after an electric-light-bath is better than anything else. After the body has been sprayed, it is well to let the patient dress and lie on a couch for a few minutes before going out.

If we wish to give the powerful radiant-light treatment to any special part of the body, it is best to do so after the electric-light-bath.

If one be equipped for giving oxygen-vapor inhalations on reclining chairs or couches, it is well to let the patient take that treatment for fifteen or twenty minutes after the electric-light-bath.

I never have known of a patient taking cold after these treatments when conducted in the manner here prescribed, even when they went out in zero weather. This cannot be said of Turkish or Russian baths. The electric-light-bath seems to enhance metabolism so rapidly that the resistance of the body is greater than when one takes any other form of bath.

In conclusion, I wish to say that no one can realize the therapeutic value of radiant light and heat until he has used it in a thorough and scientific manner.

Clinical Reports

Case 1. Miss J, age 26. Severe pain in right inguinal region and tenderness over McBurney's point. Diagnosed by her former physician as appendicitis and operation advised. When I first examined her, she could not bear the weight of my hand on the tender spot. Strong light from a 500-candle-power lamp was given for twenty minutes over the tender area, whereupon it could be palpated without any sign of pain. I prescribed olive-oil, one tablespoonful, three times daily. The following day only slight tenderness was present, which was quickly relieved by light applied ten minutes over the right inguinal region and ten minutes over the left, and the same over the lumbar region. The third day there was no tenderness. Light was also given over the entire body, along with sinusoidalization, to relieve the constipation. Same treatment given the fourth day. After the sixth treatment, the bowels and general condition were so much improved that I considered her well. It is four years since the treatments, and there has been no return of the trouble.

Case 2. Miss E, age 24. Anemic and suffering from weekly attacks of migraine for four years. Full light treatment from 500-candle-power lamp given over entire body, fifteen minutes to the anterior and the same to the posterior surface. I vibrated, to inhibit sensation in the seventh cranial nerve, and concussed the seventh cervical vertebra. Seven of these treatments were given during two weeks. This was about three years ago, and her general condition has been good ever since.

Case 3. Miss G, age 32. Came into my office, suffering from lumbago, which she had had for several days; could get no relief, although she had been to her family physician. I exhibited the full power of the 500-candle-power lamp over the lumbar region for thirty minutes, and vibrated it about five minutes. She left the office, feeling no pain at all. For over eight weeks she had no return of the pain, then had a slight attack,

when three more treatments were given with light and vibration. She has had no return of pain for four years.

Case 4. Miss D, age 28. Had severe pain over left ovary and had a lame back. I examined the uterus and found it large and retroverted, and a large erosion about os. I gave full power of large lamp over the abdomen, heat and light per vaginam, and static-wave treatment per rectum, daily for two weeks. I had her wear a pessary, along with carbenzol tampon in the os, for one week. Erosion was all gone and all tenderness disappeared from the abdomen and back. There is no return of the trouble for past three years.

Case 5. Mrs. S, age 60; married; no children. Suffered from asthma for years. I gave 500-candle-power light over chest and back, ten minutes each, daily for a week, and oxygen-vapor inhalation for twenty minutes each day. For six weeks she had no inconvenience from the asthmatic trouble, then had a slight return. I exhibited light as before, three times, and gave oxygen vapor for about a dozen treatments. After two years, there has been no return of the trouble. I do not know which helped her more, the light or oxygen vapor, but think each had a share.

Case 6. Mrs. A, age 42. Chronic bronchitis for years and coughed till worn out. I gave the same treatment as to the asthmatic patient (No. 5), but added vibration between the 4th and 5th cervical vertebræ. After fifteen treatments, there was no cough to speak of and the general condition has been excellent for now three years past.

Ulcer of the Stomach

Case 7. Mrs. L, age 50. Menstruates regularly. Mother of two healthy grownups. Had gastric pain for two years, which kept her awake nights. Severe burning in the esophagus and constant coughing during the day because of it; pain radiated to right scapula-vertebral border; aggravated by hot food or drink; relieved, up to two weeks before I saw her, by lying on her back. Had no appetite. The case had been diagnosed as ulcer on the anterior wall of the stomach. I examined her and found the stomach of normal size, but very tender at the cardia and fundus. Also tenderness between the four upper thoracic vertebræ, and between the first and second lumbar. The urine showed acid equal to 58 Cc. 1-10 normal sodium hydrate, but nothing else abnormal.

I vibrated the sensitive nerves to inhibition of pain, exhibited 500-candle-power light over the stomach for twenty minutes and the same length of time over the back above the waist-line. I gave static-wave treatment over the fundus for ten minutes. Before leaving the office, the patient said all pain and soreness were gone, and she did not cough. Next day she reported a good night's rest and only slight pain fifteen hours after the first treatment. I gave repetition of the first treatment on three consecutive days, and after eleven days the patient reported having had no pain, no coughing, and good nights' sleep since the second treatment. I put her on regulated diet and reduced the acidity of the urine to 28 Cc. 1-10 normal sodium hydrate. She has been under observation for a year, and there is no return of the trouble.

Case 8. Miss C, age 14. Enlarged and painful tonsils. A surgeon advised enucleation, but her mother brought her to see me first. I found her face and throat very tender to the touch and tonsils very much enlarged; voice impaired; general condition "run-down." She was just beginning to menstruate. I gave 500-candle-power light over the entire body, twenty minutes front and twenty minutes back, for three treatments on consecutive days. Then twenty minutes on face and throat and twenty minutes over the entire body, for seven treatments on consecutive days. Then I used high-frequency currents from a static machine, through a surface-vacuum tube applied to the region just below the inferior maxilla, a few times, and ended the treatments by giving fulguration to the tonsils. The fulguration treatments were about five in number. The tonsils contracted to normal size, and the patient has been well for the past three years, her general physical condition being "perfect."

"Cancer of the Stomach"

Case 9. (Nov., 1914.) Mr. Z, age 42, professional athlete for years. Nine months before I saw him he had a burning sensation in the esophagus and tenderness at the cardia. His family physician sent him to a surgeon, who advised operation. He found what he said was cancer on the anterior border of the fundus, but did not cut into it, except for a specimen. Six weeks later, the patient's condition was so much worse and he was losing weight so fast that another surgeon was consulted. He advised another operation. After the operation, he reported "inoperable cancer of the stomach" and said the patient would not live over two months.

Six weeks after the second operation, the patient was brought to me in what seemed a dying condition. He had lost 60 pounds since the first operation. He was too weak to be examined, so, was put on the operating-table and the 2000-candle-power lamp placed so that the rays fell at right angles to the stomach, and treatment continued for one hour. He reported that the burning pain was greatly relieved. The next day he said he had had a good night's rest for the first time in three months. I gave him the same treatment, with the addition of oxygen vapor from the Neel-Armstrong generator. The next day he was much improved. I continued this treatment for two weeks before going through an examination, as he did not seem to be able to bear much.

An examination by electronic methods showed a profound toxemia. By the same method, we located an inflamed thickening on the anterior border of the fundus, which gave cancer reaction, and spasmodic closure of the pylorus, which latter was relaxed by concussion of the 5th thoracic vertebra. We also found enteroptosis and nephroptosis, with dilatation of the aortic arch.

For about two months, I gave daily treatments as follows: Concussion of the 7th cervical vertebra, to increase vagal tone. Concussion of the 12th thoracic vertebra, for nephroptosis. Concussion of 4th to 6th thoracic vertebræ, for stomach stimulation. Concussion occupied about four minutes at each sitting. I gave 2000-candle-power light over the stomach for twenty minutes, and oxygen-vapor inhalation for twenty minutes. The patient gained over 10 pounds while under treatment and could eat everything; slept and rested well. This patient can never be cured, as he was so mutilated by the two operations, and wide adhesions resulted.

Another Case of Ulcer

Case 10. Mr. S, age 38, laborer. Has been to several clinics, and all diagnosed his trouble as ulcer of the stomach, and operation was advised; then he was sent to me for examination. By electronic methods, we made positive he had no ulcer. We found, by spinal reflex methods, that he had gastritis and a contracted aorta, caused by enteroptosis. He also had intercostal neuralgia, which was one cause for the erroneous diagnosis of ulcer of stomach. I put an abdominal support on him the first day he came in. Gave 2000-candle-power light over the stomach, for twenty minutes, and concussed 4th to 6th thoracic vertebræ daily for a week. I froze tender spot on spine from which the "ulcer pains" arose. For the past two months, he has been well and is doing hard work.

A Case of "Appendicitis"

Case 11. Man, age 32, married; mural artist. Had severe pains in the right inguinal region for over a week. Had seen two surgeons, who told him he had appendicitis, and the morning of the day I saw him arrangements were made for an operation. He came to me in the evening, complaining of unbearable pain located about the cecum. He told me that he was supposed to be at the hospital for an appendectomy the following morning, but had been advised to see me.

I gave him about 4 ounces of pure hydrocarbon oil, then put him on the table with the 500-candle-power lamp as close to his abdomen as he could bear it. I kept him in that position for about two hours, after which I began carefully manipulating the painful area, but from which the pain had disappeared. I palpated a hard mass about two inches in diameter. This mass I found was movable, and I began carefully pushing it up and through the colon. Within half an hour, I had it in the descending colon, and within three hours from the time he came into my office he passed a scybalum about two inches in diameter, along with a quantity of other fecal matter. He went home feeling well, with the exception of being a little weak. He sent word to the surgeon that he would not be on hand for the operation.

The next morning, he came into my office, and I gave him an hour's treatment with the light and also another dose of oil. I gave him another treatment the same evening. After that, I gave daily treatments with the 500-candle-power lamp over the abdomen for a week. All pain and soreness were gone by that time and he was in perfect condition. For four years he has had no return of the trouble.

Colds: How We Take Them and How They May Be Cured

With Some Personal Experiences

By J. M. French, M. D., Milford, Massachusetts

OF ALL socalled slight ailments, none is more common, and few are more troublesome, than a common "cold."

It seems to me that we have very little definite knowledge of the nature and causes of what we call colds, let alone their treatment. Perhaps, however, this is only because I myself have very little of this definite knowledge and think others are as ignorant as I myself am. I am free to confess to my own ignorance in this direction and my willingness to learn. So, do not accuse me of posing as an authority because I venture to write a paper embodying my personal ideas on the subject.

What, Really, Is a Cold?

The first point to be settled is, What is a cold?

Gould's Medical Dictionary (Practitioners' edition) defines a cold as a term "popularly used for coryza and catarrhal conditions of the respiratory tract." Which reminds one of Doctor Johnson's famous definition of network: "Anything reticulated or decussated, with interstices at equal distances between the intersections."

Turning now to "coryza," we find that it is a "catarrh of the mucous membranes of the nasal passages and adjacent sinuses, popularly called 'cold in the head.' "

Having thus gained a clear (?) idea of the meaning of "coryza," we next look for the meaning of the alternative designation and find this: "Coryza; catarrh; inflammation of a mucous membrane."

So much for the medical definition of a cold. Turning next to Webster's Unabridged, we find that the definition given out to the laity under the head of "Cold": "A morbid condition of the animal system produced by cold; catarrh."

As a last resort, we now turn to the New Standard Dictionary, to which we always go with the expectation of finding exactly what we want; and here we get the following definition of a cold, in its meaning in pathology: "A disorder usually caused by exposure to cold or damp or to a draft; as, a cold in the head (an acute catarrh); a cold on the lungs."

Result: I started out by intimating that we had but little definite knowledge of the nature and causes of colds. But it begins to look as if I was mistaken. I am learning. Look: A cold is a disorder; a morbid state of the animal system; coryza; catarrh. Coryza is a catarrh in the head. Catarrh is an inflammation of a mucous membrane. Colds are produced by exposure to cold or damp or a draft of air.

Here, then, is the material for a definition, and I am inclined to take back the slur with which I set out. A cold is an inflammation of a mucous membrane and is caused by the exposure of some portion of the surface of the body to cold or dampness or a draft.

Attempted Theory About Catching Cold

As to a "cold" being caused by exposure to cold, my personal belief is, that it may be caused by heat as well as by a low temperature. In fact, the real cause seems to be a localized difference in temperature with respect to the body. One may be out in cold weather for hours and get thoroughly chilled, yet, escape the peculiar effect which we call a "cold," and then the mischief may all be done by one's standing by the hot fire to warm up. One may ride in an open electric car on a cold day, with the wind blowing all around him without injury; and he may contract a bad cold in a closed and warm car, but having a window near him open and through which comes a draft of air and strikes him.

My Theory Regarding "Colds"

If my theory is right, the trouble all comes about through the action of the vasomotor nerves. Cold causes a contraction of the capillaries of the skin and the minute arterioles with which they are connected, thus lessening the amount of blood in a limited area of the surface; and, of course, the surplus blood is sent to some internal organ, where it causes congestion and inflammation of the "inside skin," or, mucous membrane. And, then, is this congestion of necessity limited to the mucous membrane, I wonder, or may it not include the adjoining tissues? If the extra blood goes to the nasal

mucosa, we have a cold in the head; if to the throat, some form of sore throat; if to the bronchial tubes, a bronchitis; if to the lungs, a pneumonia; and so along the line.

So, now we have got down to a fairly definite theory as to the nature and causes of a common cold. But, is this theory the correct one? Is it true?

And right here there comes in that up to date individual, the laboratory-physician, the bacteriologist, with his ubiquitous, omnipresent germ! And he tells us that a cold is a germ-disease; that we do not take cold from exposure to cold or dampness, but from exposure to some microscopic bug! There is, positively, absolutely no danger in going about thinly clothed in cold weather, or sitting in a draft, or going all day with wet feet, or, indeed, in exposure to cold in any way whatsoever. The only danger threatens from bacteria. The only cause of colds is the germ. Yet, not *the* germ, but *a* germ, since there are many different germs, each with its own peculiar kind of teeth, and each causing a different kind of cold, each working in a different way, and, worst of all, each spiteful thing calling for a different kind of treatment!

Some persons, it is true, do not "catch" cold under conditions where another certainly would; and the same person may take cold under much less provocation at one time than at another. This we have been accustomed to explain as due to lowered vitality and lessened resistance on the part of one person and in certain conditions, as compared with an increased vitality and greater resisting power in other individuals and under different conditions. But, it can be explained just as well on the germ-theory, by saying that these little animalcules have their preferences as well as do human beings, and that they seldom attack people with whom they are well acquainted, but have a special affinity for those to whom they have never been introduced! Immunity! immunity! ! immunity! ! !

But, how would it do to combine the two theories and say that germs, like potatoes, can grow only in a fertile soil; that pine-trees and strawberry-plants do not thrive in the same kind of soil; that the favoring soil for the cold-germ is found in the condition of depression that is caused by exposure to cold, as well as to the lack of resisting power that is found in all kinds of ill-health; and that the special fertilizer which hastens its growth is found in the mucus that is so abundantly secreted by the membrane as the result of the congestion and inflammation? Please, bear in mind that these ideas are thrown out merely as theories and that I do not guarantee to stand back of anyone of them when it comes to a showdown. Anything to induce thought and, perhaps, to bring about discussion.

Curing a Cold a Contentious Matter

Enough about the causes of colds. Now as to curing them. Can a cold be cured? Can it be prevented, aborted, cut short, modified in any way? Or is the only thing to do, to let it run its course?

And here, though many would answer most of these specifications in the negative, yet, the whole medical world, and the lay world as well, seems to agree that one must do something! "Never neglect a common cold."

So far they all are agreed. But when we go further and ask what shall we do for it in order that it be not neglected, then there are as many answers as there are pages in the Koran. One says we should drink no water or other liquids, another advocates flushing the system with a superfluity of water. One overfeeds a cold, another starves it. One works hard to induce free perspiration, another goes to bed and stays there until the cold has left him. All sorts of drugs are prescribed—sprays, gargles, powders, pills, tablets, cathartics, diaphoretics, diuretics, febrifuges, anodynes, even opiates—and still the list is young.

Now comes the personal experience. From my youth on, I have been unduly subject to colds. Easily acquired, they were with difficulty gotten rid of. As a whole, my general health has been good throughout. I have a good appetite, good digestion, never am constipated, my circulation has been vigorous, and I have been much in the open air. Why, then, is it that I have been so prone to "take cold"? I never have been able to understand—the fact, though, remains.

A Personal Encounter

Since a cold uses me up pretty thoroughly and makes me uncomfortable for a long time unless I am able to throw it off in the first stage, I long ago learned to try to abort it. I can't say that I have tried all the remedies that have been recommended, and you wouldn't believe me if I did, for, in spite of them all, I still am alive. For all that, I have had experience with a good many of them. Hot drinks taken at the outset sometimes are effective, and are well worth

trying. Laxatives I do not need, and seldom use. Diaphoretics have their strong points, but for me the great objection to them is, that they leave me with the pores of the skin open and more than likely to take cold again the next day. But, a doctor has to be ready to go out in all weathers. Fasting I never tried. I had, for many years, a patient whose favorite cure was to fast, and he died, at last, of pneumonia and innutrition, after having faithfully starved himself for years. Aconite, acetanilid, phenacetin, aspirin—no, I never tried aspirin, but I have used the others, with more or less good results—usually less.

Finally I settled on quinine. It is a simple remedy, convenient to carry, easy to take, and, in the doses I use, produces no unpleasant effects. Better than all, it is the most effective remedy I ever tried. The longer I use it, the better success I have with it.

Now, quinine is a popular remedy for colds, and has been for years. But, go to the standard textbooks on materia medica, therapeutics, and practice of medicine, and you will find little encouragement for its use. Search the pages of *The Journal of the American Medical Association*, and you will get such information as this: "Quinine sulphate has been used for years as an abortive treatment of colds, and the laity . . . . have always resorted to this drug. Small doses would probably not have any very decided action; large doses are inadvisable at this stage, because of the tendency to congest the internal ear." (*J. A. M. A.*, Jan. 9, 1915, page 150.) So, there you are, stuck fast between Scylla and Charybdis.

But eventually I did succeed in finding a book, written by an acknowledged "authority," which gave me a satisfactory explanation of that action of quinine on which its effect in aborting colds is based. This is no less authority than Sajous, who, in his "Internal Secretions," volume ii, pages 1240 to 1245, of the second edition, 1908, writes as follows:

Why Quinine's the Thing. Compare Sajous

"Moderate doses of quinine stimulate the general vasomotor center and cause general vasomotor constriction. Contraction of the central vascular trunks being thus produced, the blood supplied the peripheral vessels is increased, and the reflex sensibility of the cutaneous sensory nerves is correspondingly influenced.

"Larger therapeutic doses likewise stimulate the general vasomotor center, but this action is soon supplemented by another, i. e., direct stimulation of the sympathetic center, and, as a result, by increased propulsive activity of the terminal arterioles. The peripheral vessels are thus not only supplied with an unusual volume of blood, but the pressure to which the terminal arterioles submit the latter, as it passes through them, forces the blood into the cutaneous capillaries with sufficient violence, generally, to cause marked flushing. A sensation of fulness in the head and ears, due to cerebral hyperemia, may be accompanied by more or less severe headache, tinnitus, and deafness, the latter being, sometimes, permanent, especially when the use of the drug is continued.

"It is . . . . by producing capillary hyperemia, especially of the cutaneous tissues, that quinine is beneficial in many other conditions. It can thus abort acute coryza, tonsillitis, subacute bronchitis, and so on, if taken early and in sufficient quantities: 3 grains every two hours until slight headache or flushing of the face occurs, when the dose is reduced."

This is the best, and, in fact, the only satisfactory explanation of the action of quinine in aborting colds, that I have ever seen.

Quinine-Therapy Confirms the Speculation

Consider that a cold is a local congestion of some internal organ or tissue, especially a mucous membrane, accompanied by a corresponding blanching or anemia of some portion of the periphery. Note that quinine exactly counteracts this condition, by causing cutaneous hyperemia, with corresponding relief of the congested area of the mucous membrane or other internal organ or tissue affected; thus aborting the cold by its direct physiological action.

Note, further, that except in those cases where there is an abnormal sensitiveness to the cerebral action of the drug, producing tinnitus aurium and painful sensations by small doses, there is no unpleasant effect from the drug in small or moderate doses; that its occasional or even frequent use does not establish a habit or injure the system in any way; that, when a dose of quinine is taken at night, by morning its effects have been mostly produced and the subject is not left with any undue susceptibility to taking cold, as is true of most other drugs given for the same purpose, but is, instead, less liable than usual to the influence of cold. Thus, it will be seen that we have here an ideal drug for our purpose.

There are a few points that should be remembered. First, the dose. For an adult, 4 grains is an average dose, according to my experience. With those, especially women, who are easily affected by quinine, it may be well to begin with but 2 grains. In severe attacks, the usual dose may be doubled; in that case some slight, but only brief, discomfort may be experienced.

Second, as to the frequency and continuance. A dose three or four times a day is my usual rule; say, in the morning, before dinner, before supper, and at bedtime.

Third, concerning the form in which taken. Here I have learned by sad experience that quinine pills can not always be depended upon, for they sometimes get hard and will not dissolve. It is far safer and every way more desirable to take the alkaloid in the form of capsules, when action is assured, solution and absorption occurs speedily, and the effect is more positive.

Fourth, the time to begin. This, briefly, is as soon as the first symptoms manifest themselves. Anyone who is in the habit of taking cold soon learns how it is likely to begin in his own particular case and what the early symptoms are.

As for myself, the usual manifestations are, an oversecretion of mucus in the throat and nasopharynx. Often I go to bed all right and wake up in the night with the familiar first symptoms of a cold. Then I know that prompt action is preemptory, and I get up and take from a small flat vial, which I always carry, a 4-grain capsule of quinine and swallow it with a little water. Or, if I know at bedtime that I have taken cold, I take a dose then. The chances are that in the morning the suspicious symptoms will have disappeared and no more medicine will be needed. But, if not, I take a dose of the quinine on rising, and repeat before dinner, supper, and at bedtime—if this should be needed.

Beyond five or six doses, I do not go, for, if the cold is not stopped by this time, further use of the drug is without effect. I am aware that sometimes the symptoms might have subsided without the quinine. But long experience has shown me that far more frequently this is not the case; and, also, that no harm will be done, even if the dose was unnecessary. And almost always, if taken early as I have described, the cold is aborted promptly. Can anyone tell me of a better remedy?

["Can anyone tell of a better remedy?" That is for the family to say, and the door is open for comments, criticisms or suggestions. Personally I think quinine is a good remedy for a beginning cold; but I do not think it the only remedy, or even the best remedy. Indeed, I would not stake my reputation on any one drug. Doctor French has learned by personal experience that quinine suits his case; but many other physicians are doubtless equally confident that there are other things which give even better service. My own opinion is that there is no "specific" for a cold, and that every patient should receive the individual study and care demanded for success in the management of more serious diseases. After all, even a "cold" may prove mighty serious.

As an illustration, I should not think of treating a man who had stuffed himself with sausage and sauerkraut, then filled up on beer, got "all het up" at a dance, and as a consequence came down with a bad cold, in the same way that I would a delicate, poorly nourished, anemic girl suffering from an apparently similar affection. Neither would I treat a pneumococcus invasion of the upper air-passages in the same way I would an acute attack of the grip or a "rose cold." Quinine might be of value in all these conditions—and it might not.

There are many remedies valuable for the treatment of colds. Here are a few that I have found good:

If the bowels are sluggish—if there is acute or chronic constipation—the patient should be given a quickly acting cathartic. It is usually indicated.

In febrile cases—and the clinical thermometer should always be used—there is nothing better than small, frequently repeated doses of aconitine. Patients who have fever should never be permitted to "be up and about."

When the skin is cold and pale, with a tendency to chilliness, atropine is indicated, usually with aconitine, for these patients often have slight rise of temperature. Quinine is often of value in these cases, and does good, not only by causing capillary hyperemia, but also by stimulating phagocytosis.

The function of the skin should always be maintained, as a part of the effort to maintain vascular equilibrium and reduce internal congestion. Aconitine and atropine help to bring this about. So do hot baths, foot baths, and such old fashioned remedies as Dover's powder, acetanilid and spirit of nitrous ether. Keep the patient warm and in bed when stimulating a flow of perspiration.

Do not forget that, after all, *the germ* is the fundamental cause of a cold. Go after it.

Doctor Biehn tells me that iodine has a specific affinity for the pneumococcus and is death on the influenza bacillus. Thousands of physicians will testify to the certainty and rapidity of action of calx iodata (calcidin) in beginning colds. Whatever else I may use, this usually seems to me indispensable.

Many rheumatics suffer from recurring colds. An examination of their throats will often show enlarged tonsils, which may require attention. These people respond quickly to the salicylates.

When the defensive power of the organism is low, use remedies which will increase it. Nuclein acts beautifully in many instances, and may be given in association with quinine, calx iodata, guaiacol, or almost any other indicated remedy.

Keep the mouth, throat, and nasal cavities clean. Various sprays and inhalants, selected to meet local conditions, have an important place in treatment.

Remember how important it is to *know* just what it is that is causing the trouble. Make (or have made) a bacteriologic examination of the secretions of the air-passages. You may be dealing with a case of diphtheria, pneumonia or tuberculosis. The quicker you learn the nature of the trouble, the better it will be for your patient—and yourself.

Chronic colds or recurring colds often yield to bacterin treatment. If other things fail, have an autogenous vaccine made; then, if you cure a patient suffering from these endless processions of "winter coughs," he will rise up and call you blessed.

This is a subject that interests me, and I am thankful to Doctor French (as I am sure you are also) for starting the ball to rolling. Haven't you something to suggest?—Ed.]

An Old Doctor's Life Story

An Autobiography

By Robert Gray, M. D., Pichucalco, Mexico

EDITORIAL NOTE.—This article is the seventh instalment of Doctor Gray's autobiography. At the age of eighty-five he is giving the readers of "Clinical Medicine" an intimate record of his adventurous and romantic life, ranging from his experiences as a student in Paris and as a surgeon in the Confederate Army, to his struggles with deadly disease in the tropical jungles of southern Mexico. The story rivals in interest any work of fiction.

[*Continued from page 749, August issue.*]

The Dangers of Travel

WHEN I started south, on horse back, I came to a cabin in a deep, dark canyon just as night was coming on, after having traveled for hours without the sign of human habitation; and was told there was a house nearby, on the road. The woman would furnish corn for my horse and give me a bite of such as she had to eat. To sleep, I had to go up a ladder through a hole in one corner of the cabin, the bed being in the opposite diagonal corner, the candle to be left at the entrance. I was tired and sleepy, and slept soundly.

Late in the night there was a hubbub and quarreling down below, the dispute being over the partition of booty. Finally the woman awoke and spoke a few soft words, which calmed the wrangle; and soon all was still, save for stentorian snoring; and I also slept again, but only lightly. By and by I awoke with a start and clearly heard someone climb the ladder and then advance with almost catlike tread to about half way to my bed, then stop, making some peculiar noise for some time; when the steps were retraced and someone descended the ladder.

In a little while, the candle was put up on the floor and I was told my food would be ready by the time I could prepare myself. Between the bed and ladder I found some smoked hams hanging; and the noise I heard was the woman cutting out a piece in the dark to fry with eggs for my breakfast. The floor was covered with the sleeping bandits. Naturally, I felt plenty of trepidation; but the woman whispered me to fear nothing, as I was safe from harm. I ate my ration, but with no great relish. The woman had fed my horse and saddled it in good shape. She refused pay; but I flung two Mexican dollars to her children when I was on my horse. It was not yet good daylight when I rode away, and I urged my horse on favorable stretches of road for some miles. I had slept and eaten in the home of a chief of bandits.

Hold-up Men

That experience admonished me to sell my horse and travel by hired conveyances, or

by stage-coaches, where any were running. One day I had a fairly good hack to carry me from one town to another some thirty miles ahead, and the driver, a wretched, ragged specimen, apparently was half asleep, yet, ever alert at bad passages. We were emerging from an ugly mountain-gorge, when three horsemen suddenly appeared in front, with arms ready, shouting, "Hands up!" "With much pleasure, gentlemen!" sarcastically responded the driver, and ere I had time to get my hands well up, there was a blinding flash of fire in my face, and another and another, in quicker succession than it takes to think of it. One of the waylaying gentry was dead, another mortally wounded, and the third galloping away reeling in the saddle. The incident detained us two days while the authorities were making their record, the man being entitled to a handsome reward that was out for the trio, dead or alive. He told me afterward that he had been a Texas ranger for seven years and in many closer calls with Comanche Indians.

Getting Acquainted With "Yellow Jack"

There were squally times in Mexico in the days of that era, and for long after; yet, I finally reached the "Hot Country," in the state of Vera Cruz, when frightfully decimating yellow-fever, of unusual virulence, was depopulating the rural districts up as far as Cordoba, more than 2000 feet above the sea. I knew no secret about its treatment, yet, was no more ignorant than any other, unlimited experience notwithstanding; still, I plunged in, under the advice and layman tutelage of an old Frenchman, who counseled me against intoxicants, though he himself was half-drunk all the time. He advised me to drink plenty of lemonade, a rousing glassful before coffee in the morning; to eat about the same as I might were there no epidemic abroad; and not to be afraid, as sheer fear killed more than half of the victims.

I encountered some rather strange incidents during that dreadful epidemic. There were numerous small ranches starting in the coffee-planting industry, mostly owned by single men, not of the neighborhood, nearly all of those dying who were stricken; and there was an industrious Irish priest hurrying around with a notary to confess them, usually leaving with a title to the property, conditioned that, if the man died of the pending fever—which he was almost sure not to forget to do. I was constantly on the jump, day and night; still, as Doctor Sangrado told Gil Blas, most of my patients died. But so did those of every other doctor in the same field. I had one Irishman, delirious when I first saw him who convalesced encouragingly, and was sitting up in his room. I called, in passing, late one afternoon, when he asked me what sickness he had had. I told him, "Yellow-fever." "Thin oi'll doie!" And the fellow slipped out about dark, got drunk, and was dead in a gutter the next morning.

Saving a Little One

Another time I was called to a one-room cabin at 1 o'clock in the night, where I found on the floor, eleven bodies of persons who had died since 6 o'clock the morning before—the hour when the dead were collected each day. Over in a corner there was the tiny patient, whom I was called to see, in her little crib, the remorseless fever burning up her blood. I went to work with the little waif, with all the zealous assiduity that could have actuated me had she been a full-grown princess of royalty, forgetful or heedless of my ghastly surroundings. And when the first glint of the early morning-sun kissed her little cheek the fever was broken; and I took the pallid but beautiful little orphan up in my arms and carried her to a mother whose babes were all dead. There she got well, grew, thrived, and married, in due time becoming the mother of seven children; and was twice a grandmother the last I knew of her.

I had six weeks of that dreadful ordeal, catching snatches of sleep while seated on chairs, never going regularly to bed in all that time, but eating something with fairly punctual regularity; and was not sick once.

I now look back upon those awful scenes, from the vantage viewpoint of modern science in this enlightening age of progress (the term "enlightened" is too positive for a process no more than in active gestation) with wonder and amazement, that what then was esteemed high-grade medical attainment should have been so stupidly crude. Certainly my scholastic endowment was in the front rank, although my practical clinical experience had been *nil*, save in the fevers and the dysentery of the new plantation, without much useful helpfulness in other fields, among people of another race, in a different climate; my work in the civil war having been exclusively surgical. Nevertheless, all this notwithstanding, I soon found that even the most experienced were as helpless in a great and deadly crisis as was I; that we all were as ignorant as pigs, that knew enough not to have yellow-fever, and, yet, more stupid than the semi-savages of the mountains.

All that we knew about yellow-fever was, that it filled the country with panic, mourning and new-made graves, a state of affairs which we had no shadow of a claim to believe we had modified in any appreciable degree. The truth hangs people, sometimes, and it would have made galley-slaves of most followers of the medical profession of the world in every age of its historical presumption, though ignorantly rather than wilfully criminal.

Eyes Opened to the Truth

I went into a little cove of a valley, of thirty cabins, where there had been 130 souls at the inception of the plague, every person of whom was stricken, no medical man ever once having darkened any door of the hamlet; 31 had died. Just across the river I took the count of sufficient cabins to make the same number of persons living in them when the fever appeared, all of whom were stricken; and, while nearly all had had more or less medical attention, yet, 71 of them died. I said nothing to any person of this medical discrepancy; for all that, it caused me to repent bitterly that I ever had been in Paris, but rather had mingled my worthless dust with that of my perished kinsmen, who valiantly died on battle-plains.

That night I went to my room without eating supper, and sat me down in the rocking-chair, almost as deeply humiliated as I was the night I fled from the parlor scene of my old friend in New Orleans. And there I sat, more stupefied than pensive, in despair of saving imperiled suffering humanity not dependent on surgical intervention, a well-confirmed medical nihilist, far more radical than were some of my preceptors in Paris, their skeptical incredence, fearfully expanded, sinking deep down into the gloomy abyss of my desolate soul. And there came mockingly around, flitting in whirling groups and then passing in slow and solumn procession, my happy young life, blending in the little negro-plays, under the watchful supervision of that old fond black-faced mammy, in the fair land of my birth, for whose homely hearth I had wept so many times, feeling the bitterness of its despair; the wide fields of cane and cotton, and drives in the long and grassy lanes; the clear winding mountain-brooks, teeming with the gamy speckled trout; the herds of deer grazing in the vale or drinking from the tail-run of the mill; the green fields merry with the songs of happy slaves, heedless of the harvests their labor yields; those flowery dells and fruitful vales cheerful as wedding-bells, till our inebriate distress marred all that far more than earthly loveliness into a wilderness.

And then came the medical profession, a ghastly conglomeration, of sleek nourishment and gaunt famishing hunger, interspersed, ever and anon, with the duplicates of Romeo's apothecary and their stale herbs and rotten roots, and fermented tinctures—a crushing rebuke to the ignorance that comprised the stock and store of my own endowment.

Behind all this came a great brilliant light, in the center of whose radiant circle stood out in dazzling letters—"SEEK ME!"

I seemed, thus, to realize that there was medical light to be found, but where or how, there was no guiding hint.

I started up. Evidently I had been half asleep, fugitively dreaming. Yet, I felt that I must on. I was inauspiciously embarked, with no headland beacon on either hand, with no alternative but to continue the voyage.

And I hastened away, to mingle in the horrors of a smallpox epidemic, then raging and rapidly spreading near and around.

(To be continued.)

A WAYSIDE REVERIE

By RICHARD WIGHTMAN

THE past? Well, what of the past, I say
Poor outworn thing; can I mend it, pray?
Do tears avail for the misspent days?
Will pining straighten the crooked ways?
Must yesterday's heartbreak last for ay,
And yesterday's mist hide the sun today?
Nay, life is life, and the farer's toll
Is a hopeful heart as the hours unroll.
The path ascends; each winding rood
Blooms at the touch of a blithesome mood.
I will hold that the best is a bit beyond
And drink a toast from the lily's frond—
A toast in dew to the day that's done,
And one to the better day begun.

Pacifying Nerves by Means of Pressure*

By Edwin F. Bowers, M. D., New York City

EDITORIAL NOTE. Doctor Bowers has given us a remarkable story, which we hope will be read carefully by all our "family," then the expedients suggested given a faithful trial, and reported upon through these columns. Is there anything in the idea? We want to know. Who can help us answer this question?

ALWAYS humanity has demanded to know "How?" and "Why?"; this is one reason why we of today know more than our grandfathers did. When that ancient Greek philosopher said, "Know thyself!" he was applying the "How?" and "Why?" to one of the most mysterious things that baffled him, namely, the complex human body, and of all the mysteries still confronting us the question of the nerve reflexes is one of the most troublesome. Let me illustrate:

For ages we have ground and gritted our teeth during paroxysms of pain. The action is so universal that, knowing the peculiarities of any given individual, we can tell just how much it hurts him by the amount of noise he makes gritting his teeth.

Again, when we bump our shins against a rocking-chair that, with the perversity of all inanimate objects, takes up a point of vantage directly in our path, immediately and without waiting to be told we clasp the offended shin with more than brotherly ardor. Experience has taught us that by this act of intimate kindness pain is relieved.

And in those dear dead days—now thankfully beyond recall—before the blessed era of nitrous oxide and local anesthetics, when the muscular and unfeeling dentist leaned toward the door, with our pet tooth firm in the embrace of his shiny forceps, we helped him to our utmost by clutching the arms of his chair with a viselike grip. It mattered not that this maneuver had no more connection with the mechanics of tooth extraction than the effulgent rays of the moon have on the pumpkin crop. We saw our duty—and we did it, of our own free will and volition.

When fury and anger sweep us in their red flame and the gentle familiar aspects of nature take on the hue of blood, we clinch our fists until the nails are driven deep into the flesh.

And in the first shock of that agony of bereavement that comes to all, because it is the way of all flesh, or during the cruelly dragging hours when we are adjusting ourselves to living with our very hearts torn asunder, we clasp our hands in veritable frenzy. When our friends come to strengthen us with their warm sympathy, they do not, if they are wise, burden us with mere words of condolence. They take our hands and press them, silently and warmly; and they let the unspoken word speak for their hearts.

And during those bleak hours, when we say, with the psalmist, "Would God it were morning"; and, when it was morning, "Would God it were evening," unconsciously we make our petition with fingers interlaced or pressed tightly together.

We do these things, because they are natural and, apparently, inevitable. We do them automatically and without rightly knowing why. But now we do know why we act thus.

It's the Push-buttons—That's Why

We now are absolutely certain that we grind our teeth during the passage of a gallstone, or clutch the arm of a chair when an abscess is lanced, or tightly interlace our fingers under stress of powerful emotion, because these actions reflexly influence the severity of the pain or modify the emotional strain. And the reason why they do so is, because the grinding-pressure of the teeth or the clinching of the fingers tends to block the transmission of pain or emotional impulses. In other words, they produce a form of analgesia somewhat similar to that which follows the injection of water or some anesthetic solution into the course of a nerve.

For, in addition to the approximately three hundred "push-buttons" located in the mouth, nose, pharynx, epipharynx, tonsils, palate, fauces, and tongue, and originally charted by Dr. Wm. Fitzgerald of Hartford, Connecticut, it has been proven that the entire body is symmetrically studded with similar nerve-reflex "push-buttons." Doctor Fitzgerald, and the physicians, surgeons, and dentists who have been enthusiastically collaborating with him, now reach the broad, general conclusion that the human body is divided into ten zones, five on either side of a line drawn up the middle of the body.

It is an established fact that reflex analgesic and therapeutic results are obtained by pressure exerted upon any of these zones over any bony eminence and that this affects any pathologic condition in these particular zones, although not to the same extent as

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will pressure exerted upon the little "switches" located inside the mouth and nose and on the tongue.

The Pressure Zones, and Their Extension

The first, second, third, fourth and fifth zones begin in the toes, run up over the head and end in the fingers; or, *vice versa*.

The experimenters assert (and I have so demonstrated to my own satisfaction) that pain and many abnormal conditions in any part of the first zone may be treated and overcome, temporarily at least, by applying pressure over the first joint of the great toe or the corresponding joint of the thumb. Should the pressure be limited to or be most marked upon the upper surface of the great toe, the anesthetic or analgesic effect will extend up the anterior aspect of the body and to that point on the top of the skull known technically as the frontoparietal suture—which, by the way, seems to be the dividing line between the posterior and the lateral zones. The effect will also extend laterally over the chest and to and down the front surfaces of the first zone of the arm and thumb.

Should the pressure be exerted upon the under surface of the great toe, the effect will extend along the first zone in the sole of the foot, and continue along that zone up the back of the leg, thigh, body and the top of the head, and also toward the shoulder and then down the posterior surface of the first zone of the arm and thumb. Pressure upon the end of the great toe or thumb will affect the entire first zone, front and back. Pressure upon the lateral surfaces of the fingers or toes will affect the lateral boundaries of the zones governed by these particular fingers or toes. In order to insure success with these various pressures, it is essential that these facts be kept firmly in mind.

When I was dictating the rough draft of this article, my stenographer complained of rheumatic pain located in the outer aspect of the right ankle. I grasped the second joint of his right little finger and pressed firmly for a few minutes on the upper and under side of the joint. He volunteered the information that, though the pain was somewhat relieved, it still persisted. I then recalled that this pain was localized on the outside of the ankle, instead of on the upper surface. So, changing my grip to the side of the joint—the lateral aspects of the finger—I repeated the procedure, and in less than two minutes he expressed himself as being perfectly free from pain; and he has remained so.

A limited degree of anesthesia may be established by applying pressure over any bony surface; also often a mere momentary contact with a glowing sharp-pointed galvanocautery needle or even with the thumb-nail or finger-nail will produce the same result.

It may once more be mentioned that pain or any abnormal conditions anywhere in the first zone of the body may be overcome more quickly and effectually by pressure with a probe or with cautery contacts at certain points throughout the first zone in the mouth, pharynx, epipharynx, nose or tongue; still, the finger and toe pressures, if properly applied, quite generally may be relied upon, and are especially adapted for "home treatment." Whatever applies to one zone is equally applicable to all the other zones.

As to the duration of the pressure, the average time required is from one-half minute to four minutes, depending upon the susceptibility of the patient.

A Few Practical Hints for Dentists' Work

Let me make a few practical applications. If, for example, one has pain in the first zone on the left side of the jaw—either upper or lower—it can be overcome, temporarily at any rate, by means of firm pressure upon the thumb—pressure just short of pain. The patient very soon will declare that the thumb feels numb, and he seems able to trace the progress of a wave of numbness extending gradually upward through the arm and over the body in that particular zone. When this numbness passes beyond the locality where the pain for which the anesthesia is being induced exists, the suffering usually ceases. When this occurs, dental work or minor surgery may be attempted, the nerves being quite desensitized. The patient may exert this pressure himself, but the operator or his assistant will do it more effectually and expeditiously.

For the benefit of dentists who may wish to prepare cavities in sensitive teeth or do some of the necessarily painful scaling of tartar and other deposits in pyorrhea, as also for the particular benefit of the millions of their patients throughout the country, I will say that pressure (applied by an assistant) exerted over the first joint of the thumb, will mitigate or quite control the pain in the incisors and the cuspid tooth of the side corresponding to the digit being squeezed. Incidentally, it is best completely to cover the joint, using thumbs and fingers of both hands for this purpose.

Similar pressure exerted over the second joint of the index-finger will control pain in the respective bicuspid tooth. The middle finger is reflexly related to the two molars, but sometimes the third finger must also be employed for affecting that region.

In other words, pressure upon the thumb, index-finger, and middle fingers of either hand will control, correspondingly, pain in the incisors and cuspids, cuspids and bicuspids, and the two molars on either side of the median line, provided that there is no great inflammation or an abscess in the vicinity of the respective teeth.

Occasionally the "control" overlaps, in which case it is necessary to manipulate also the finger next to the zone-finger; while, in order to get the best results in the case of wisdom-teeth, it is advisable to act upon both the third and the little finger.

Some Other Pressure-points

A very successful method practiced by some experts—particularly when extracting must be done—is, to grasp the offending tooth as near to the apex of the root as is practicable, and with the thumb and finger make firm pressure for three or four minutes, by the watch. This usually produces a degree of anesthesia sufficient for extraction purposes. This anesthesia usually lasts about one-half hour; while, of course, the pressure may, if necessary, be again applied at any time.

Other dentists and oral surgeons get excellent results by pressing on the "heel of the jaw," or, more properly, the tuberosity of the superior maxilla. This is capable of producing a very complete and lasting anesthesia of the entire upper jaw on the side influenced, and permits the painless extraction of teeth located in the immediate neighborhood.

In the case of the lower front teeth, it has been found that to press or hold the inferior dental nerve, where it emerges from the inside of the ramus of the lower jaw, gives good anesthesia. Also pressure with the finger upon the inferior dental nerve, where it issues from the inferior dental foramen, will usually anesthetize that half of the jaw. Many operators, the better to "focus," prefer to use the blunt end of an instrument (the handle of an excavator is excellent) for this purpose.

The proper application of these principles cannot fail to become of immense value to dentists and oral surgeons in their practice. In relieving toothache and neuralgia, in removing deposits, in extracting teeth, in fact, in all painful operations that dentists are called upon to perform, this simple and readily learned pressure technic should prove invaluable, as many are finding out every day.

How Dentists Profit

And, further, the practice of these principles will, inevitably, encourage public interest in dentistry, and will materially diminish the sum total of pain and suffering that humanity, throughout this vale of fears is called upon to endure. Indeed, it is a common and certainly highly gratifying experience among those dentists now employing pressure-analgesia to have especially sensitive patients—those upon whom, because of past exhausting and nerve-racking experiences, they have always dreaded working—exclaim with gratification: "Well, doctor, if you hurt me no more than you did today, I shall never again fear to come to you."

Mothers will find that in this inhibition-analgesia they have a safe and certain means of relieving themselves and their children of an immense amount of pain and discomfort. For, while, of course, they cannot hope to possess technical knowledge that will enable them to find and exert pressure upon the nerves themselves, it is a comparatively simple matter for them to grasp the roots of an aching tooth between thumb and finger and thus relieve the pain—at least until they can take little Alfred or Alice to the dentist.

However, in cases of toothache in which the preceding method may not seem feasible, people, by remembering the fingers that correspond to the particular zone which it is desired to influence, can do much to relieve distressing conditions in that zone until such time as the doctor or dentist can be visited. For example: At a dinner-party the other night, one of the ladies complained of a severe pain in her right upper first molar. I told her to squeeze firmly the joint of her second finger—advice which she considered a rather illtimed and pointless joke. Insisting that I was serious and helpfully disposed, she obeyed instructions, and in a very few minutes beamed complete relief from her dental anguish.

Suggestion Is Not an Element Involved

Belief in the efficacy of the treatment is not essential, and "suggestion" does not explain the reactions. For, if the pressure is not made in the proper zone, in the proper way, and for a sufficient length of time, the results will inevitably be negative.

In fact, anticipating such a contention, Doctor Fitzgerald and his fellow experimenters purposely, in hundreds of instances, refrained from suggesting that they even were attempting the relief of pain, the first and only intimation as to what was being accomplished coming from the patients themselves.

In neuralgias and other painful conditions of long standing—where there are no decayed teeth or other dental causes for pain—many permanent cures have been effected by means of pressure-treatment. Almost it would seem in these instances that whatever tended to reduce the pain also helped to remove its cause, no matter how remote.

Many dentists secure a very satisfactory degree of analgesia—sufficient for excavating or treatment—by firmly compressing the patient's lip or cheek immediately over the tooth that is to be worked upon. But, as a rule, for extracting teeth, they prefer pressure over the roots or directly upon the various branches of the dental nerves.

The Dentist's and Doctor's Spheres Overlapping

One of the most significant facts in connection with pressure-therapy—or zone-therapy, as now it frequently is called—is the intimate relation subsisting between morbid dental conditions and pain or even pathological changes in virtually every part of the body. It has been demonstrated beyond a shadow of a doubt that points, or foci, of infection within the mouth or in the teeth frequently manifest disturbances even in most remote parts of the body.

This is one reason why many physicians and surgeons employing this method make it a routine practice to send every patient who has any dental disease, or in whom it is merely suspected, to a competent dentist, for a thorough overhauling. Doctor Fitzgerald does not profess to explain this unquestioned relationship, but he contends that in every case of goiter ever treated by him (and he has seen hundreds) invariably there were conditions present calling for dental attention.

Another reason for striving to keep all our original teeth in the places that nature intended is, to preserve the continuity (if it may be so termed) of our various nerve-zones. Sound, healthy teeth and roots in their normal occlusion seem to assist in normal functioning of the entire zone-chain of which they are an important link.

Congestions, headaches, neuralgic conditions affecting the nerves of the head or the ears, even partial deafness have been materially improved and many times completely cured by the application of a galvanic cautery around the necks of the teeth, by pressure on the teeth themselves in the zone affected, or even by having the patient "grind" the particular teeth that are nervously related to those areas which it is attempted favorably to influence.

In several instances, chronic frontal headaches in children have been cured by correcting faulty occlusion of the front teeth. When after several months' treatment the teeth were restored to their normal alignment and continuity of the nerve-zone was reestablished, the headaches ceased to occur, and there has been no return of them.

Diagnostic Value of Pressure-Therapy

Reflex relations are even more pronounced where there are abnormalities in the nose, epipharynx, pharynx, throat or other parts of the body, and frequently manifest themselves in lesions or various distressing symptoms, always, however, within the zone occupied by the original cause of the trouble. Thus, for instance, hay-fever is a disease exhibiting more or less of constitutional symptoms. Yet, Doctor Fitzgerald, in an experience with many hundreds of cases, contends that he never has seen a hayfeverite with an absolutely normal nose. Invariably there were bony spurs, enlarged turbinates, deviated and twisted septums, mechanical occlusions of some kind, or else an irritated, inflamed mucous-membrane lining; and these seemed to stand *in loco parentis* to the hay-fever.

As a matter of fact, as a means of diagnosis, those familiar with zone-therapy consider it as almost invaluable. If a patient complains of pain, the origin of which seems obscure, these physicians assure themselves first that it does not arise from eye trouble. If then the nose and throat are clear and the dental expert also reports that the patient's teeth are sound, these doctors know that they must look elsewhere through the zone affected for the source of trouble.

Sometimes most serious unsuspected conditions are thus uncovered, as happened with a woman whom Doctor Fitzgerald recently treated for goiter. (This condition, it may be remarked in passing, is almost invariably cured by pressure-therapy.) In the past fifteen months, Doctor Fitzgerald has treated 21 cases, many of which were of the exophthalmic variety, where there were the protruding eyeballs, the unsightly enlargements of the thyroid gland, and all the other usual

symptoms. Twelve of these have been discharged as cured, and are on the high road to recovery—having had no other treatment except pressure-therapy. However, one patient proved intractable. Finally, she was sent to a gynecologist, where examination disclosed the presence of a large fibroid tumor, located, of course, in the same zone as the goiter. An operation was performed, and now, without doubt, a rapid improvement in the goiter can confidently be expected.

And That's Why Teddy Clicks His Molars

And, so, we can now understand why we grind our teeth. It is because this action causes a relief of nerve tension and a diminution of pain in all the zones of the body connected by those invisible and as yet undiscovered nervous wires strung through the telegraph-poles of the teeth.

When we grab our bruised shins, we check the transmission of pain of the irritated nerve-trunk lines of that zone. When we grasp the side-arms of the dental chair and hang on like grim death, we unconsciously are going through motions that, if continued long enough, would have made our ordeal comparatively painless. The only fault in our preparation for it was, that we should have started our pressure-grip three or four minutes earlier. Still, our intentions were good.

When automatically we clench our fists in furious anger, we are relieving terrific nervous excitation, and thereby perhaps preventing the bursting of a blood-vessel. When we clasp the hands of one sorely stricken and in the throes of despair, we are, in addition to supplying him with comforting magnetism and psychical solace, producing a distinctly analgesic and quieting effect upon his entire nervous system.

And when we clasp our hands or press the fingers tightly together in supplication we are ministering to the overwrought nerves and thereby perhaps bringing ourselves into closer harmony with the great Cosmic Force that envelops us in a mantle of kindness and love.

Intravenous Injections of Salicylic Acid and Guaiacol

A Comment and Criticism

By H. L. Henderson, M. D., Astoria, Oregon

IN THE August issue of Clinical Medicine, page 720, appeared an excellent paper from the pen of Mr. Carl Nielsen, together with commentaries on the subject by the editor; those comments breathing a spirit of genuine altruism, professional liberality, and caution. Inasmuch as I was honored by my name being mentioned as one of the investigators in this clinical field, I take it that I shall not be called overpresumptious if I take up the subject and give another view and consideration of the matter than that mentioned by either the editor or the learned author of the article in question. I will premise that I do not do this with any spirit of controversy or criticism of anyone or his opinions, nor do I presume to speak for any other investigator than myself.

In the limited line of investigation along which I am working, many new and unorthodox conclusions have been forced upon me and results have been obtained that do not coincide with socalled scientific and popular beliefs and traditions that are as old and time-honored as the science of medicine itself. We all must admit that medical science, as such, has made many and rapid strides forward during the last few decades; many of our former beliefs have been relegated to the domain of fallacies and superstitions. And so it may be with regard to intravenous medication and its possibilities. In it, we may learn from clinical experience that "there are more things in heaven and earth than are dreamt of in philosophy."

I have been patiently delving and endeavoring to find a really successful treatment for tuberculosis ever since my second year as a medical student, now nearly thirty-five years ago; and all these years I have closely studied the numerous "treatments" that have been announced from time to time. About eleven years ago, I began investigating the action of salicylic acid, and later took up its combination with guaiacol. The disappointments, the intricate problems, the surprises, the victories gained would not be of interest to him who has never trod the rough and rugged road of experimental therapeutics, tried and tested by the fires of clin-

ical results. I mention these difficulties met and overcome, not as a boast, but simply to indicate that, while having traveled that rough and rugged road, I should, indeed, be a monumental dullard had I not picked up at least some few things that can be acquired by personal experience and observation alone.

It would be impossible to express too high an admiration of the chemical acumen displayed by Mr. Nielsen in the formulas, as outlined by him, for the formation of the solution of salicylic acid and of guaiacol, as viewed from the standpoint of the laboratory-clinician. There can not possibly be any doubts in the mind of any accomplished chemist but that a perfect solution would be formed by following that formula. The laboratory verification of the employment of his solution in his experiments on dogs and rabbits, as also the record of the phenomena manifested by his subjects, are all clear and explicit.

How the Solution Acts Upon Consumptives

However, I have administered many, many hundreds of injections of the solution, as I make it, to human beings, even to the "half dead" consumptive, in doses ranging from 80 to 140 grains of the acid and from 40 to 60 minims of the guaiacol, without having observed any of the alarming phenomena that Mr. Nielsen witnessed in his animal-experiments. It has been a long time since I gave less than 70 grains of the acid and the proportionate amount of the guaiacol, even to a child of ten years of age.

A comparison of these records must force one to the conclusion that either the solution employed by Mr. Nielsen is not the same in materials and formula as mine, or else the results of the physiological action of the substances composing the solution is vastly different upon the animal than upon the human being. Personally, I am very certain that the answer to the first hypothesis is positive, and am very strongly inclined to believe that the answer to the second is also positive.

In preparing the solution according to the formula published by him, Mr. Nielsen, like many others, has overlooked the germ in the seed, in his search for the expected complex. Its real simplicity and primary nature has been obscured in the mist of an expected complication that does not exist.

It is seldom that I have seen a more direct proving of the oft-asserted variation or lack of agreement between animal-experiment and clinical symptoms than is here exhibited. Several well-informed physicians have observed me in my work of administering the solution and will readily verify my statements as to immediate results being devoid of alarming symptoms. On the contrary, my patients often express a relief from oppressive symptoms even before the completion of the injection, and they all are ready to leave the operating-table and walk to their rooms within ten minutes from the completion of the administration. The hectic flush of toxic febrile action disappears in a very few hours, cough and expectoration decrease rapidly, and often within three hours after the administration of the injection the patient is simply "howling" for food. I have had a few patients admit a slight dizziness after their attention was aroused by a question; I have had a few complain of nausea, provided there was food in the stomach at the time of the administration or if the liver had been working short hours for some time previous to beginning treatment. In all, the pulse becomes full and round, with abnormal frequency; the blood pressure rises perhaps from 10 to 25 points, and a coincident blood-count will soon manifest an increased corpuscular activity and proliferation, and often the patient begins at once to gain weight, at about the rate of 5 pounds per week, up to his original normal weight.

Stop and ask yourself, Do these facts coincide with accepted orthodox science? Not by any means! Take down your best work dealing with the physiological action of medicines, and you will at once see that many of the statements made by the author were not founded on pure human clinical manifestation. Is not this a sufficient cause for professional cynicism and heresy? In the making of the solution, as I use it, I employ only ingredients that have been made by a manufacturer whose name is a worldwide guarantee of absolute purity. I always use the wintergreen salicylic acid. This may account for some discrepancies.

The Formula Will Not Be Divulged

In the comments of the editor upon the paper by Mr. Nielsen, he made implication that the formulas used by men engaged in this work should at once be published broadcast to the world. So I myself formerly thought and fully expected to act thus. I have no doubt that the readers of these lines are expecting soon to reach the formula which I, as one worker along these lines, employ . In that expectation he will be disappointed; but, if he will follow to the end,

I will try to make plain the reason for my reticence.

When I first published a report of the work that I am doing in the treatment of tuberculosis, wherein the solution of salicylic acid and of guaiacol forms an important spoke in the vast wheel of the therapy of the treatment of that dread disease, and by which I am enabled to bring about a complete and permanent cure of about 90 percent of all patients who are ambulant and whose cases are uncomplicated at the time of beginning treatment, the number of letters that came to me asking for details was simply astounding. I was completely "snowed under." When I finally sorted out and replied to these letters, and after I had fully analyzed the spirit and the intent of the writers of them, I was still more thoroughly astounded. Hundreds of these letters breathed a spirit of medical wisdom and comprehension that was truly refreshing. Others had the word "mercenary" stamped so plainly across their face that it was difficult to read any other portion of them. Still others had "personal ambition" as a label so plainly written that anyone could read it. Others, again, showed so plainly that the writer had no comprehension whatever of the fundamental truths underlying the science of medicine, no knowledge of chemical physiology, physiological therapeutics, human pathology, and so on, that the perusal of them became absolutely painful.

I will transcribe one of these letters, the original of which is in my possession, and, when I tell you that the writer of it is an American-born man, a graduate of a reputable medical college, and is registered in one of the states that boasts of the high requirements for admission to practice within its borders, I believe that you will at once agree with me that it would be a dangerous thing to place in the hands of such men an engine that is so powerful, so capable of doing good to suffering humanity, but, also, perhaps, as well capable of doing harm in the hands of the man who is not "duly and truly prepared" for the work. This letter was written with a typewriter, so that there can be no mistake as to its literal construction and phraseology. I trust that the "printer" will set it just as it is written, punctuation and all.

H L Henderson M D
Astoria Ore

My dear Doctor

I notice your, Artical, in, the ——, medical, jurnal, on, tuberculosis, i have, A case now of tuberculosis of the boules I should like to make an effort and it is A well defined one would it be posaible for you too send too me me enouff medisine. for this caise, As i mite not get the meds the compound, just, right as I as your self, believe you have made a life, saving, discoverey And i will try it share if I can get the, material, trum you, alreadey, Proportioned It will suit me So if yoy can or can not compley, with the above I for one doo congratulate you and wishyyou success.

As ever respettfulley.

I sent copies of this letter, together with several others of like character (originals still in my possession), to many of the leading men in the medical profession in as many of the medical centers of this country and asked them for their candid advice under the circumstances. Each of them answered my inquiry at considerable length, all advising me that it is a duty that I owe to suffering humanity, that I do all in my power to keep this method from falling into the hands of the incompetent and the mercenary. They pointed out the fact that in the hands of an incompetent person this method of treatment would not and could not receive justice; while, in the hands of the mercenary adventurer, it would be but a short time until he, being more ambitious for fame and money than for wisdom, would bring about the death of one or more trusting victims—and then the blame would immediately reflect upon me and the method, although the method might be ever so efficient in competent and careful hands. The condemnation of the medicinal combination and of the method would immediately follow—although not because of any shortcoming on the part of the medicines or of the plan of treatment generally—and it would be branded as a fake and a fraud and be dumped on the shores of the medical ocean, soon to be forgotten among the many wrecks that now mar its beauty. The incompetent man can not possibly bring the degree of success that can be attained by the one more perfectly equipped, so that from that source the method would lose favor.

In a Quandary as to the Proper Course

Such was the advice that I received from men whose ability and professional and personal integrity are above question. I recognize the fact fully that it is a physical impossibility for me, and even for thousands of men, to give this treatment, that promises so much, to the almost countless sufferers from the ravages of the "great white plague." But, what shall be done? Must the method be sacrificed upon the altar of incompetency and egotism combined with mercenary motives? These are questions that need answering by someone who is so prolific with sug-

gestions that the minor details of the work should be spread broadcast. I had one letter from a barber who assured me that, if I would inform him of the plan of treatment that I employed, he would give up his trade and at once take it up and go about curing sick people. I had one letter from a poor widow, who told me a pitiful story of the hard struggle that she had had to raise and educate her family, and she thought that, inasmuch as she was known to be "handy" around the sick, if I would tell "how to mix the medicine," she could cure "lots of cases" in her neighborhood.

Should Doctors and Scientists Keep Their Discoveries Secret?

Now, after knowing these things, the question arises in my mind, Was the publication of the alleged formula in the recent paper by Mr. Nielsen timely, or is it well advised? Now, after its publication, if an incompetent takes it up and begins to administer the solution as he outlines it and trouble and even death follows, the blame falls on the shoulders of Mr. Nielsen, not on the incompetent; for, there is the printed evidence that the compound as used has been published in a reputable medical journal and, consequently, has the stamp of authority.

That there are incompetents and quacks in the medical profession, no sensible man will dispute. There are also innumerable noble, self-sacrificing, and competent men in our profession, and each of them will, if he so desires, take up this work and use it for the benefit of suffering humanity; and he will not write to me or any other man and ask for details as to the chemical combination of the medicines; for, if he possesses competency, then it naturally follows that he knows full well how to compound the medicines.

In many of the letters that came to my desk, I found that a large percentage of the writers desired to take up the work of treating tuberculosis as purely a "side line" to the general practice of medicine, not seemingly comprehending the fact that the man who successfully treats tuberculosis will not have time nor opportunity for any other work in general practice.

There is not one single atom of secrecy connected with this work. Any man who possesses the requisite amount of primary medical knowledge, together with the amount or degree of industry that should characterize every practicing physician, can soon systematize this subject, and as much success will crown his efforts as that of any other man engaged in the same line of work.

In previously published papers from myself (and I have read like papers from other investigators), the remedies are named and the doses are given. So far as I am informed, "there is no royal road to knowledge." Everybody may attain that goal on any particular point, if he will get in and work. It is my sincere desire that competent men at once take up this work and assist me in turning aside the "grim messenger" from the homes of the many thousands of people at whose door he is even now seeking admittance. I have nothing to sell except my services to those whom I treat. Let others take up the work with only the object in view of assisting suffering humanity, and I will help them all as far as lies within my power.

—

[While we are pleased to have an opportunity to present the views of Doctor Henderson, we cannot let his defense of secrecy go unchallenged. His argument is not valid, although it is ably presented—so ably, that we fear some of our readers may be misled thereby.

It may be admitted that there are ignorant and unskilful men in our profession, who might harm their patients with Doctor Henderson's remedy; but it must be remembered that men of this character are dangerous, whatever they employ, as dangerous now with morphine, arsenic or chloroform, as they could possibly be with salicylic acid and guaiacol. The majority of physicians, however, are competent and earnest, and any man who withholds from them the means of curing people who are capable of cure takes upon himself a very serious responsibility. It is not for the doctor to say that someone might use his remedy wrong when there are thousands of physicians capable of using it right, and even of improving upon his methods and thereby increasing its value.

The profession of medicine prides itself upon its hatred for the secret and mysterious. It is because the accomplishments of each man are open to every other man that we keep on progressing. The surest way to kill medicine is to reduce its devotees to the level suggested by Doctor Henderson. What would have been the effect upon the profession, for instance, if Ehrlich had put salvarsan on the market as a secret nostrum; if Wright had patented his opsonic theory and permitted the use of bacterins only to his licensees; if Rogers had offered emetine to

the public in "Rogers' Dysentery Cure"; and if Barrett had refused to tell the dental profession how he was curing pyorrhea, and had begun the sale of "county rights"?

As Doctor Williams says at the beginning of his article on Nephritis, in this issue:

> "The master key to the door of Hope
> May be held by you or me,
> But pray what use is this master key
> If withheld by you or me?"

If Doctor Henderson really has something useful for the treatment of tuberculosis, it can stand the light of day. Improper use will not kill, criticism will bring it support as well as condemnation, and discussion and the broadening, enlightening experience of many men will help to place it on a firm foundation.

We hope that Doctor Henderson will come out into the open. He is making a mistake. A further discussion of the salicylic-acid-guaiacol treatment will be found in an article by Doctor Fowler in the Miscellaneous Department, this issue.—Ed.]

The Medicine of Tomorrow*

By Simon J. Young, M. D., Valparaiso, Indiana

IT REQUIRES no gift of prophecy to point out some of the needs which exist in medical practice, and which must be supplied in some degree if the medical profession is to keep step with other agencies looking toward a higher and more efficient civilization.

Individual effort in medicine has reached a high degree of skill; knowledge has advanced at a remarkable pace; from a maze of superstition and dogma, our profession has been extricated and has walked out into the sun, where the white light of science is brought to bear upon it, examining, testing, proving everything.

And, yet, every thinking practitioner feels that, somehow, he is handicapped in his efforts to utilize in a practical way the knowledge which he possesses. He tries to be thorough, to give his best thought and talent to every patient, but altogether too often something perforce is left undone. Time and again, as he plans and recommends certain procedures, he is baffled; some difficulty arises, and he is obliged to compromise with his ideals; he gropes in the dark and guesses, where he might walk in the light and know, if only he could have his way with the patient; he knows what he ought to do, but is unable to do it. Why is this so?

Reasons for Unsatisfactory Services

As I view it, the difficulty lies in two directions.

In the first place, our system of medical practice is wrong. This system is competitive; it ought to be cooperative. It is extravagant, unscientific, wasteful. Our ruling fees are not commensurate with the service rendered. To make a diagnosis, requires expensive equipment and cooperative effort. As individuals, we cannot afford to provide the needful apparatus, and, as general practitioners, we could not make skilful use of them if we had them.

Furthermore, competition prevents specialization, except in cities. There can be no specialization, in the proper sense, without cooperation among practitioners. The professional scramble for bread-and-butter patients not only arouses envy, but retards individual growth. It limits our service largely to the individual. Medicine today has reached such proportions that no one man, however learned, is competent to make a diagnosis in every case—much less, to treat efficiently.

The age of individualism in medicine, as in all human activity, is passing. This is a time of specialization and of cooperation between specialists, if they would achieve efficiency. The very magnitude of the task demands it.

The other difficulty confronting us comes from our patients. Men and women gamble with fate, and they trust to gamblers' luck that sickness will not overtake them. Then, when sickness does come, they are neither prepared for it nor able to pay the doctor. They even do not comprehend what is implied by competent medical service. The people's idea of medical treatment is, to "take something"; ignorance and superstition still are dominant with the laity, and for this we physicians are largely to blame.

Professional service, as rendered today, is a personal service; hence, quite naturally, each physician encourages among his patients the belief that in his person is concentrated all wisdom, that HE is the alpha and omega of scientific medical information. Furthermore,

*Read before the Laporte County (Indiana) Medical Society, April 9, 1915.

being dependent upon his patients individually for his livelihood, the temptation ever is strong to appease their desire for medicine. Hygiene, right living, diet, exercise, these are all right in their way; but the patient will say: "Doctor, aren't you going to give me something to cure me?" "Certainly, certainly; you will reply, I am going to give you some medicine, and you must take it exactly as I direct. The vicious circle is complete.

And thus it is today, in some degree, with every one of us. And, let me repeat, it is so because we are competing with each other for a service that it is not possible for us to render as individuals—a needed service that we can not render without intelligent cooperation. It is so because our patients take no thought for the morrow and when confronted by illness try to wheedle the doctor into "giving them something," irrespective of the kind of treatment the circumstances demand.

These, I am convinced, are the fundamental obstacles that stand in the way today—thwarting our efforts (honest and sincere) to render to our patients thorough, accurate, scientific service, such as we know they ought to have.

Of course, we are doing this in a few instances, but I am speaking by and large, and I know—as you know—that we do not, even in a respectable minority of our cases, "deliver the goods."

The medicine of today is capable of rendering a service tenfold greater than it does, if these obstacles were removed.

Cooperation Must Solve the Problem

The medicine of tomorrow will find a way, and that way, I am sure, lies in the direction of cooperation. The principle of cooperation applies to the social status of the patient too, as well as the work of the medical profession. We must cooperate in order to be able to render perfect service; they must, by cooperative effort, be prepared to receive medical aid and pay for it. The one is as necessary as the other.

What Our Patients Get for Their Money

It is our duty, as physicians, to study this question. Let us, for the time being, lay aside prejudice and consider the sick people who are buying medical service, and make clear what they are getting for their money.

Under the present system, some of our patients pay too much for medical aid, many pay nothing, while nearly all obtain too little in the way of proper, needed treatment.

These conditions are familiar to all of us: The rich can afford the best as to medical service; the poor today obtain it free, as a result of charity—and charity, nine times out of ten, is an economic folly. The great middle class of Americans—those of the laboring class and the people in moderate circumstances, as well as most people in rural communities—are outside of the pale of scientific medicine. These people, the bulk of the nation, do not want to be classed as charity-patients, yet their means will not permit them to employ a group of specialists. Indeed, they look with suspicion upon a physician who tries to send them in turn to the laboratory-worker, the roentgenologist, the oculist, aurist-rhinologist, the neurologist, the urologist, the gynecologist, the surgeon; they come to regard the separate fees of specialists in the light of duplicate fees and rightly conclude that the cost is out of proportion to the service rendered. In fact, it often is prohibitive.

However much these sick people may need this special service (and we know full well that they do need it), they cannot have it. Many times such aid is not conveniently attainable, but many more times they are unable to pay for it. And yet, these people are the bone and sinew of the nation. Why should the best medical service be denied to these men and women, and their children—these breadwinners of the land—when the best is available to the rich and to the very poor.

The explanation of this unsatisfactory situation is, that we are, as yet, only a half-civilized people. We do not see that our present complex form of society is gradually submerging the individual. In order to find a remedy, we must soon come to realize that no man can live unto himself alone, and that each man is his brother's keeper.

The Practice of Medicine Must Be Socialized

To me it is obvious that this deplorable situation can be remedied only by the proper socialization of medicine. I am aware that the mere mention of contract-practice (which is involved in socialized medicine) raises a storm of dissent whenever it is referred to. Notwithstanding this, I am ready to go upon record in favor of some plan, by whatever name it may be called, that will enlarge the physician's sphere of usefulness.

Firm in the belief that state medicine is the only avenue through which this service may be adequately rendered, I proclaim it as the *medicine of tomorrow.*

Indeed, in some respects it already is the medicine of today. In principle, it is recognized in the United States Public Health Service and in the various activities relating to the communal health of the several states. The workmen's compensation acts, widows' pensions, and similar provisions all proclaim, in a limited way, the idea which I have in mind.

Even now shrewd business men are reading the signs of the times, and, so, we have accident-insurance and health-insurance companies by the hundreds; lodge-insurance also is growing in popularity; the labor unions in some localities are instituting accident and health insurance of one type or another; the railroad corporations long have maintained relief-associations designed to provide for accidents to their employees. It is a fact that corporations are beginning to realize that efficiency is largely a question of health, hence, some are providing medical inspection and medical service for their workmen.

Everywhere we see evidence that groups of citizens are awakening to the need of cooperative effort with a view to protecting themselves against the pauperizing influence of sickness. And why not? For many years we have protected ourselves against loss by fire; more recently life-insurance has protected our families against the consequences of death—and few men are so bold today as to deny that life-insurance is a great social blessing.

Insurance Against Sickness: Why Not?

Then, why not insurance against sickness? Some plan (perhaps many) is sure to be adopted under which large numbers of people will band themselves together and buy medical service on a per-capita basis, even as they buy protection today against loss by fire, and by death, and by accident.

Sickness is accidental, and, like other accidents, it ought to be anticipated by some cooperative saving-fund out of which to pay for it.

Many private schemes will arise in the next decade, purporting to furnish such service; but, most of these will be open to criticisms—they will be designed to enrich their organizers, and give as little as possible for the cost. It remains for us to watch all these new schemes carefully, not merely to condemn, but to study their weak points and then endeavor gradually to strengthen them.

It does no good to rail against lodge- and contract-practice. It is here. It is right in principle, and, if wrong in practice, let us seek to remedy the defects as they may appear.

I believe that, at some time, we shall have state medicine, all service paid for by taxation, even as we now have education and police protection at public expense. Before that time, however, our political machinery will have to be changed materially, and public ideals also must undergo an evolutionary change. Yet, I believe it is coming faster than most of us realize.

Mutual Insurance as a Transition Makeshift

Meantime, I think the best system to provide medical treatment for the man of moderate means is that of mutual insurance societies under state control. As to the details of such a system, I think we have sufficient data to guide us in making an effective start.

Health-Insurance Societies of Germany and Austria

The insurance societies of Germany and Austria have passed through the formative stage and are, today, in successful operation. True, there have been dissatisfactions and a year ago a strike even threatened on the part of the physicians, to carry out the service imposed. However, everything finally was adjusted to the satisfaction of both sides.

Until in recent years, the medical profession in Germany was not well organized. Insurance contracts were made with individuals, and pay consequently was small. Before the expiration of their contracts, the Doctors' Federation had grown sufficiently strong to formulate effective demands, and the results are apparent in the fact that only 150 physicians out of 32,000 in Germany could be induced to sign with the insurance companies, against the advice of the Leipsic league.

The terms of the final agreement involved the following features—contracts running for ten years:

1. The right of the profession to organize for the purpose of protecting itself and of regulating the conditions of service.

2. The free choice of doctor on the part of the patient whenever possible.

3. Arbitration courts composed of an equal number of members representing both sides, for the settlement of all controversies.

Twenty-two millions (22,000,000) of the German people were brought under the operation of the new agreement by compulsion, while many more are given an oppor-

tunity to take advantage of it, if they so desire. It is estimated that in some districts nearly 95 percent of the inhabitants will be affected. This virtually constitutes a state system of medical relief.

In the dual monarchy of Austria-Hungary, a system similar to the one obtaining in the German Empire is maintained.

The British Experiment with Socialized Medicine

England has recently adopted an insurance act which is the most sweeping the world has ever seen. "Besides medical attention, the act provides insurance against sickness and disability for all who have an income below a certain amount." At present about 14,000,000 people are beneficiaries under the law. It has been proposed that in the near future the act shall be made to apply to the dependents of the insured, so that no less than four-fifths of England's population will come under its provisions.

About 20,000 of the 22,500 physicians in England are now employed under this act, notwithstanding the bitter opposition at first offered by the British Medical Association. The futility of this opposition is evidenced, not only by the number of physicians who accepted service under it, but also by the fact that during the first year of its operation the incomes of these practitioners actually were augmented in sums varying from $750 to $2000.

The English law has not been entirely satisfactory in its operation; moreover, it obviously is impossible to please everyone with a law so comprehensive. On the whole, it has been a great boon to the people affected by it, and gradually the physicians are adjusting themselves to it, and find it profitable.

The need for cooperation, which I have pointed out, on the part of physicians, has not been fully met in the English system, inasmuch as no arrangement was made for the employment of specialists, and compensation for work is upon a basis of fees instead of yearly salaries. This need already is recognized by the people and, so, the latest budget carries an appropriation for the pay of specialists who may be called in consultation by any of the panel-practitioners. In a recent speech by Sir Clifford Allbutt, on the medicine of the future, reference was made to this provision, and the speaker declared that it would "lift English medicine to a level that it has never yet attained."

Agitation is going on now to place the panel-physicians upon full-time service at a yearly salary; and this, as usual, is being fought by the physicians. It is the only feasible plan, though, by which to obtain successful cooperation and true economy in service. It undoubtedly will be the next step in the development of the English system.

(To be continued.)

The Letters of Doctor Leonidas Playfair

Addressed to a Young Man Just Entering Practice

By A. H. P. Leuf, M. D., Philadelphia, Pennsylvania

MY DEAR FRIEND: Having secured your location, estimated the community in which you are going to begin your work, determined upon your general bearing, and having fixed upon your office-hours, besides deciding to carry your own medicines, it is important that you make up your mind what your regular charges are to be. In this matter, remember, you must be governed largely by the prevailing schedule of prices of those round-about you. Despite the many sentimental conceptions of our profession, it has its unquestionable business side; albeit, unfortunately, almost always neglected. The first thing a beginner becomes aware of is, that he is in competition with others—a competition with a vengeance; sharper, unfairer, and more unrelenting than obtains in ordinary business, and otherwise worse because covert and insidious.

Inasmuch as you, my young friend, aspire to take a high rank in your profession, you must be careful at the outset not to undervalue your own services by making ridiculously low charges, althogh you must have a care not to place these too high; for, your value will, as yet, be undetermined and it would be supererogation on your part to put a price upon your services as high as that commanded by the most desired physicians in your vicinity. Nevertheless, you should not condescend to compete with the ridiculous charge of 25 cents for an office-call, or even to accept any less amount that the patient may see fit to offer, rather than lose the business altogether. If you charge a fee as large

that of the best men about you, no one but a fool will pay it if he knows you to be a beginner; and he will not be likely to do so again. Should he do so, though, his very weakness would make him of little value to you in securing new patients. Consequently, it is advisable to charge, at the start, a moderate fee for your services; for the reason that you hardly can esteem them of more than moderate value to your clients until you have had sufficient actual experience to back practically what you have memorized in your studies at college. It is only after you have demonstrated to the community your efficiency and the superior value of your services that you can, with good grace, exact a larger reward than at the beginning. In this connection, let me add one point that usually is overlooked when men, upon becoming busy, raise their prices.

While natural ability and attention to one's work undoubtedly are the cause of the successful upbuilding of a practice, the doctor so fortunate as to be able to do this never should forget that he owes much of his advancement to the good will of his older patients and their earnest endeavors in his behalf. Hence, it becomes an act of gross ingratitude for him to apply to these persons or families his increased prices. To do so simply amounts to penalizing those who befriended us, believe in us, and, in their enthusiastic endeavors in our behalf, are instrumental in bringing to us the very excess of work that enables us to take this step. It would be far more equitable—and judicious—to give these old friends the privilege of compensating us with whatever honorarium they might feel is fair under the circumstances; thus following the old English custom—a beautiful one among honorable people, but, unfortunately, not to be thought of at the present time, if one has not ample-enough means to be independent of an income from practice.

The plain, straight, business way of meeting this whole question is, to continue the old rates for all those patients who were attached to you at the time you raised your charges, making the new rule apply only to newcomers. Such a change should be announced to all your old patients, so that they may govern themselves thereby in recommending you to others. I purposely avoid mentioning any particular fixed fee, for the reason that what this should be depends upon circumstances, as I have already stated.

A fair average office-fee in most of our larger cities would be $1.00, while that for visits should range from $1.50 to $2.00. The second naturally will depend somewhat upon the distance to be traversed and the ease of reaching the patient; for, it often is more convenient to see a certain patient twice at a given distance than it is to visit another once, although the distance is not greater, but it is more difficult to reach the latter. When several calls at a distance are made on the same trip, you can afford to make each at a lower figure than you could if they were made separately.

When one first enters upon the practice of medicine, there is a sort of self-conscious timidity about making an honest charge for the service, as if one felt that not quite the money's worth was being rendered for the amount received. In this, I recognize the intuitive appreciation that conditions are sadly out of joint, in which one man is so unfortunate as to have to give the earnings of an entire half day to another for a few minutes' time, a trivial amount of medicine, and an expert judgment that often comes without effort. However, necessity compels this alike upon the part of each: circumstances force the one to exact compensation, and the other to pay it. The fact that this is not as it should be is no reason why the young doctor should make himself the victim of precarious circumstances by foregoing the compensation without which it is absolutely impossible for him to maintain his efficiency as a ministrator to the needs of the sick and injured.

After you are once established, your fees should never be less than those of your equals in public estimation. Even before your reputation is established, your fees should not be less than those of others in the same vicinity under like conditions. Never have the appearance of undercutting other physicians, as though they were competitors in some ordinary business. It is undignified as well as damaging to yourself.

Range of Fees, and Making Exceptions

It is wise, even at the very beginning, to charge the same fees exacted by established practitioners, but subject to a more liberal discount than they allow; not so much, though, because your services may be worth less, as for the reason that you are sure to attract a poorer class of patients. In discounting bills, always render and receipt them in full. This avoids written and signed evidences of your giving discounts, shows that you value your services as high as does any other physician in your vicinity, and impresses upon the beneficiary of your

gratuity the extent of your generosity. It hardly is fair to the doctor that he render all kind of services, regardless of their value, at the same uniform figure. Lawyers do not do this—then, why should we? A lawyer charges in proportion to the value of his services, regardless of the time or effort required. Nor can it be said that we of the medical profession are essentially different from those of the legal because, mayhap, we deal with unexpected misfortunes; for, so do the lawyers, and they take good care that their fees grow in proportion as a client's position is unlooked-for and unfortunate. I do not mean to say that the physician, the representative of the noblest of all professions, should take an unfair advantage of a confiding patient, but I do mean that his compensation should be adequate, and commensurate with the services rendered, so far as, and whenever, this is possible, subject always to the ability of the patient to pay. Let me give an illustration.

To attend a case of typhoid fever daily for a number of weeks, when this is running a typical course and there is nothing to do but to come in, look pleasant, shake hands, ask a few questions, say an encouraging word, tell the patient to continue as before, and promise to return on the morrow, the doctor evidently is not doing much work and can afford to render this service at a minimum figure; more especially if the patient is in straightened circumstances, and still more so if he is too honorable and too conscientious to evade payment, while having too much pride or gratitude, or both, to ask for a discount. On the other hand, if you are treating a case of diphtheria or scarlet-fever, both of which are very contagious, decidedly malignant, and highly dangerous, you are running the risk of conveying the infection to the precious members of your own family, or to some of your patients and other members of the community, all equally as precious to those similarly related to them. On this account, it is obligatory upon you to take every possible safeguard to avoid contaminating others. But all this involves trouble and loss of time, such as is not at all necessary in attendance upon patients having noncontagious diseases. You have a right to make your charges correspondingly larger; and they should be, whenever possible.

You may be called to attend a child having spasms and may have to remain there for a whole hour; a service that many unreasonable people will expect you to render at the usual fee for a single ordinary visit to the house. To this, however, you never should agree, though you may never be able to get more than the ordinary amount. If thus forced to, it is proper, under the circumstances, to accept the proffered sum with good grace, but strictly with the understanding that you are not willing to be called again at the same figure under similar circumstances.

Lump-Sum Charges

For a long time it has seemed to me that it is fairer, both to patient and physician, to charge lump sums for the treatment of certain diseases. We have one precedent for this in our attendance upon confinement-cases, which we do for a fixed sum, including all the attention at the time, together with the subsequent attendance, provided there are no undue complications requiring too much extra work, or the assistance of another physician, for either of which we expect extra compensation (as most patients well understand, and to which they usually readily agree). Similarly, it seems to me that we might treat an uncomplicated case of typhoid fever, running a course of about four weeks, for a fixed sum. So, also, with various other diseases, say, scarlet-fever, diphtheria, measles, or ordinary tonsillitis.

It is a great mistake to present itemized statements, enumerating specific amounts for office-consultations and house-calls. It places a uniform value upon services that vary in importance between wide extremes, and which should be charged for accordingly. If a patient's confidence in a physician and his desire to be attended by him is so slight or feeble that he stands upon the size of a bill measured in dollars and cents, as compared with the total number of visits and office-consultations, he is bound to him by so slight a thread that the doctor should not regret its breaking, though this had preferably be done by him.

Resist the temptation of overcharging the rich for ordinary services. They very properly resent it, and are likely to dismiss you, giving their wealthy friends their reason therefor, and thus exclude you from their patronage. However, extraordinary services, such as operations, for instance, you may charge for with much greater freedom. It has been suggested that, when asked for your bill after rendering a great and valuable service in the ordinary way in the family of a wealthy man, such as having successfully carried through a critical case of pneumonia or typhoid fever, the man himself perhaps the patient, you gently remind him of the value

of his life to him and of the fact that you have saved it under grave conditions. This, in the hope and expectation that you will be invited to charge liberally; but, if disappointed in this, you are to present a bill for the regulation amount.

My advice to you is, never to engage in indirections of this kind, but manfully to present a bill according to your customary rates, making extra charges, however, for the special attentions commonly exacted by the wealthy upon appropriate occasions; the latter, though, better being specified, not necessarily by items, but in the aggregate. Such conduct puts you on a better footing with people of this class, and does not prevent them from remembering you in some grateful way in addition to the payment of your bill.

Let People Know Your Conditions

It is advisable to give patients, particularly newcomers, an idea as to what your rates are, before they engage you, by a suitable card displayed in your waiting-room. This card should not name any definite sum as your office-fee, but should indicate your minimum charge, and intimate that it may be more than that; about like this: "Office Fees from $1.00 up." This implies that you will see no one professionally in your office for less than the amount mentioned, but that more may be charged, and that anyone may have to pay more if his ailment is one for the treatment of which you exact larger compensation.

Another sign in your waiting-room, which states that your office-work is strictly for cash pay, will bring to you many a dollar during the course of a month that you otherwise never would see. The old saying about a bird in the hand being worth two in the bush does not do justice to the average doctor's way of not doing business, for it would be stretching a point with a vengeance to say that a dollar in hand was worth only two in a patient's pockets. A fairer ratio would be as one to four. In justice to the average patient, I am obliged to say that I believe two-thirds of the cause for this is owing to the doctor's own inattention to the most ordinary business methods.

Just as special services at a patient's abode merit a special fee, so, also, does one kind of office-work deserve greater compensation than does another. To ask a few questions, hand out some medicine, and be done with a patient in five minutes, is one thing; to help a patient partly to undress, arrange an electric battery, wet a pair of electrodes, then carefully pick out the motor points at certain portions of the trunk and extremities, to stimulate the nerves and cause muscular contractions during a period of twenty minutes or more, then help him to get ready, and finally supply him with medicine, all this consuming at least twenty-five minutes, is another proposition. Manifestly, this latter treatment is deserving of larger remuneration than the former.

If a given patient is unable to pay the extra charge, but you are willing to treat him for what he is able to give, it is better to let him know the measure of your concession. Not to tell him of it, necessarily cheapens you in his eyes, for he himself cannot wholly estimate the value of your time and services by your fractional charge, and cannot be expected to guess at how generous you are with him. You can let him know all this in a delicate way, with every regard for his sensibilities, however keen they may be, thus enabling him to appreciate the worth of your time and service, and to have the opportunity of being grateful for your generosity and consideration. He will like you better for it, will think more of you, and do more for you.

Occasionally patients will come to your office in whose cases it would not be fair to charge even your minimum fee, as, for instance, those who come three times a week for several months at a stretch. Thus, you may be treating some chronic ear, nose, or throat trouble that requires a momentary local application daily or upon alternate days, each treatment consuming at most perhaps one minute at two visits out of every three. This work is mere routine and should be charged for proportionately.

While I advise you at all times to be fair to yourself, I should be unjust, indeed, did I not also urge you to be likewise to your patients. Patients of the kind just considered should be treated by the month. You should have an understanding with them at the beginning, at which time it should be agreed upon how often and for how long a period it is likely that the patient will have to call on you before he can hope to be cured; and how much it will cost him per month. In arrangements of this kind, in which a relatively small lump sum is charged for an aggregate number of treatments within a definite time, payment should be made in advance. This has the added good effect of insuring the patient's attendance for at least the length of time paid for, during which you will have a fair opportunity of demonstrating the efficacy of your treatment.

(*To be continued.*)

What Others are Doing

COCCYGODYNIA

Coccygodynia (coccydynia, coxalgia), although actually meaning "painful coccyx," is a term loosely applied to almost any painful affection in the coccygocrural region. This, Hamant and Pigache (*Rev. d. Chir.*, Jan., 1914) hold not to be good practice and plead for a restriction of this term to the coccyx alone—including any pain referable to it. (By the way, Kokkyx is the Greek name for cuckoo and was applied to the terminal bone of the spine because of its fancied resemblance to the cuckoo's bill.)

Coccygodynia, then, designates that severe and persistent painful affection of, or radiating from, the coccyx and which proceeds from a luxation of that bone; the latter the result of a fall or blow or brought about at difficult childbirth. This being the situation, the treatment of coccygodynia can only be surgical, and complete exsection is the sole method promising certain and complete cure; and this without fear of any subsequent functional disturbances.

ISOTONIC SALT SOLUTION FOR INTRAVENOUS USE IN EMERGENCIES

It can easily happen that distilled water and chemically pure sodium chloride are not at hand when intravenous injections or hypodermoclyses are urgently called for to save life. Consequently the practical experience of a practitioner who met such emergencies will be welcome to many a doctor, especially those in rural districts. Quite possibly many already have solved the problem for themselves; nevertheless, the specific statement following may not be amiss, because not taught in textbooks and from the cathedras.

Dr. Friedrich Hercher, of the St. Vincent Hospital at Ahlen, Westphalia, relates in the *Muenchener Medizinische Wochenschrift* (1914, p. 1987) that on several occasions he encountered the difficulty mentioned, and, since his patients were as good as dead from exsanguination, he took chances; making the available drinking-water (well or hydrant) and table salt from the kitchen do. He dissolved 2 teaspoonfuls of the salt in a quart of the water and in a covered vessel (glazed, if to hand), boiled this for thirty minutes, allowed to cool, then filtered it through sterile absorbent cotton into a sterilized receptacle. Because of the satisfactory results obtained, with no untoward effects from these crude solutions, the author has employed this method many times in his practice. He also has, on occasion, injected intravenously plain drinking-water sterilized by boiling as above (no salt) without bad effects, except that once in a while a light transitory fever or also chills have occurred, nothing more.

ESPERANTO DURING THE WAR

In view of his experiences encountered in the present war, M. Schwab warmly recommends (*Klin.-Ther. Woch.*) that some international auxiliary language be adopted by all organized agencies concerned with the saving of life and relief of suffering, whether for service in peace or in war. The author specifically mentions Esperanto, an artificial language easily learned and practically adaptable to all needs as to vocabulary.

CALCIUM SULPHIDE IN PELLAGRA

We find another warm advocate of calcium sulphide in pellagra in Dr. R. O. Braswell, who in *The National Eclectic Medical Association Quarterly* (March, 1915, p. 225) declares that when this remedy is given in large quantities it will relieve and benefit all cases of pellagra and make a permanent cure in a very large percentage. To be effective, not less than 10 grains must be given each day, and in many instances it is necessary to give 20, 30 and even 40 grains a day, until the system is saturated.

In one case Doctor Braswell gave 40 grains of the calcium sulphide a day for five days, but at the end of that time there was nausea and vomiting due to saturation with the remedy. Then the patient was given 36 hours' rest, and in the interim received small

doses of a saturated solution of magnesium sulphate. Then the calcium sulphide was resumed, 2 grains being administered every two hours for a period of ten days, after which the magnesium-sulphate course was resumed. This alternation was continued for some time and resulted in complete cure.

Doctor Braswell also reports another case of pellagra, a very severe one, in which saturation with calcium sulphide proved successful. He says that he made no change in diet in the treatment of either of these cases, except to exclude fats and limit the use of cooking oils and grease in general.

NEW OPERATION FOR VARICOCELE

Aiming at high anchorage of the testicle and simultaneous shortening of the blood column pressing upon the branchlets of internal spermatic vein in the simplest manner for the relief of varicocele, R. Franck (*Zentralbl. f. Chir.;* cf. *Militaerarzt*, 1915, No. 1, p. 12) developed the following new procedure, which has proven satisfactory in 8 operations:

Luxate the testicle. Sever the inferior scrotal ligament, leaving the stump next the testicle sufficiently long. From this ligament, the testicle is to be suspended, but inverted—upside down. Since suturing this ligament directly to the external inguinal ring would place the testicle too high, cut a flap—5 cm. long, 2 or 3 cm. wide—out of the external oblique fascia, its base toward the inguinal ring, and then turn this flap downward like a hinged lid. To this fascia flap, now fasten the scrotal ligament by means of wide "silk-button" sutures.

MISCONSTRUING CERTAIN HEART IRREGULARITIES

Altogether too often physicians misconstrue the significance of certain irregularities of cardiac action in otherwise healthy young individuals, according to James J. Mackenzie, in *The British Medical Journal* (Nov. 21, 1912); the majority, in conformance with the traditional, but erroneous, views on cardiac pathology, forthwith treating every unusual sound or movement of the organ as a grave disorder. This is unfortunate, in that it imposes harmful worry upon those concerned, while often excluding the person from a desirable occupation or even life-insurance.

This authority unqualifiedly tells his readers that wide observation, extending over many years, has convinced him that a certain form of irregularity of heart action in the young, and which is so very frequently encountered, is a harmless phenomenon—may indeed, be looked upon as actually physiologic.

The author distinguishes four species of irregular heart: (1) The alternating pulse—pulsus alternans—a mark of high-grade exhaustion of the heart-muscle; (2) irregularities in the fibrillation of the atrium; (3) extra systole of healthy adults and in certain forms of heart disease; (4) the youthful type mentioned above. This latter type of irregularity—the subject of this article—is characterized by changes in the duration of the diastolic phase, and can readily be recognized by auscultation.

The practitioner should not permit himself to be misled by unusual functional sounds; indeed, the essential need is, to test the functional quality of the heart-muscle—a measure thus far deplorably neglected in the education of physicians.

ANIMAL CHARCOAL IN ZYMOTIC INTESTINAL DISEASES

According to official announcements (*Wien. Med. Woch.*, 1915, p. 170), animal charcoal (from blood) is finding widespread employment in Austria-Hungary in the treatment of zymotic intestinal diseases, notably dysentery and in the cholera hospitals of Galicia, this measure giving great satisfaction. However, results are not uniform, by reason of the imperfection of some batches of the preparation sold; in consequence of which the following tests are appended, to which animal charcoal must respond for therapeutic purposes, according to the pharmacologic institute of the German University of Prag (W. Wiechowske, director); the object being, to determine (1) its absorptive power, (2) impurities soluble in hydrochloric acid, and (3) impurities soluble in water and in lye, to wit:

In a stoppered test tube, shake together 0.1 Gram of the charcoal, sifted, and dried at 120° C., with a 1.5-percent aqueous solution of Merck's medicinal methylene-blue hydrochloride: complete discoloration must ensue within one minute.

Boil together for between five and ten minutes 5 Grams of the charcoal with 150 Cc. of double-normal hydrochloric acid; when cool, add distilled water to complete 200 Cc.; filter. Take 150 Cc. of this filtrate and evaporate it to dryness in a weighed capsule;

the residue, dried at 110° C., must weigh not more than 0.05 Gram.

Now, shake together some of the charcoal with distilled water, then filter; the filtrate must yield not more than a trace of turbidity when silver-nitrate solution is added.

Boil some of the charcoal with lye-solution: no coloring matter must be abstracted.

MULTIPLICATION OF THERAPEUTIC EFFECT BY SYNERGISTS

Again has been discovered the multiplication of therapeutic power by the union of synergists—this time in France. The Paris correspondent of *The Lancet* (Jan. 18, 1915) says that, at a recent meeting of the Societé d'Etudes Scientifiques contre la Tuberculose, Renon spoke of the action of peronin, thebaine, narceine, papaverine, and helenine in phthisical coughs. The use of these agents separately may be well known, but this is not the case with their combinations: "which method did not merely add to their effects but rather modified them, and often multiplied their therapeutic action."

Thebaine and helenin were indispensable for the tonic and excitant action of thebaine on respiration and circulation, and the special action of helenin on the cough and its slightly stimulant effect on the organism. One combination he advised consisted of peronin and thebaine, 1 centigram each, with helenin, 2 centigrams, in pill or cachet; two such doses daily at intervals of five hours or less.

Helenin is the active principle of elecampane, a remedy for the lungs that has been so often ponderously "extinguished," but will not stay down. Thebaine, or paramorphine, is a remedy that deserves far more study than it has ever received. Some day that remarkable arsenal of therapeutic weapons found in opium will be investigated.

ULTRAVIOLET LIGHT FOR DESTROYING TETANUS-GERMS IN THE LESION

At a meeting of the Medical Society of Hamburg, E. Jacobsthal and F. Tamm made a preliminary announcement on the subject embraced in the title (*Muench. Med. Woch.*, 1914, p. 2324), which we condense, as follows:

The spores of tetanus, as also those of anaerobes responsible for malignant edema (gas-phlegmons) are unusually sensitive to the short waves of violet light. This fact established, the investigators instituted experiments upon wounds infected, both artificially and in a natural way, with tetanus-germs, subjecting them to the violet light from a Kromayer quartz lamp and to artificial solar light. In a number of instances, tetanus-bacilli as well as edema-bacilli were thus completely eradicated.

Because of the demonstrated presence (by means of the Berkefeld filter) of the large amounts of toxin present, the wound should be cleaned surgically, in addition. Thus, it is plain that radiotherapy may powerfully assist other treatment whenever amputation is undesirable or impossible.

ORTHOPEDIC TREATMENT OF SPASTIC PARALYSES

Doctor von Baeyer, of Munich, for some time has been engaged in developing a new method of treating spastic paralyses consequent upon multiple sclerosis, amyotrophic lateral sclerosis, and similar diseases. The exact procedure is not described in his communication (*Muench. Med. Woch.*, Jan. 26, p. 135), this being reserved for another time, but is merely indicated as consisting in winding around the affected extremity an unelastic bandage (socalled "waist-band") about 3 cm. wide, rather loosely, so as not to interfere with the circulation; the best location being ascertained by trial, occasionally even several bandages being called for. For elbow paralysis, the bandage is placed to best advantage slightly below the bulge of the triceps muscle.

The author relates how he happened to hit upon this simple expedient, the favorable action of which—in the absence of a better explanation—must depend upon a relaxation of the spasm. Thus: "I said to myself, these spasms depend upon a removal of the checks; consequently there will occur instances where some of these inhibitions persist. Hence, we should aim so to stimulate the remaining checks that they can substitute those lacking. Since, however, these checks no doubt are released or directed by sensible impressions, it devolves upon us to augment the sensible recognition of the same during movements, especially in a muscle. But, the sensible recognition in a muscle, the sense of contraction, can materially be increased by tying a band around it. (A fact readily proven to oneself.)

Doctor Baeyer does not contend for the correctness of this theory; still, the eminently satisfactory results have made it very probable; at any rate, they were such that he did not hesitate to test the procedure when, in the charge of a military hospital, he was confronted by numerous cases of spastic paralysis following shots in the head.

With these bandages applied, the patient is able to execute movements of the arm or leg previously impossible, or, a seriously impaired joint-movement can be made more easily and quickly. While there have been failures, it, still, has been rare when such a patient did not experience a certain amount of relief.

Therapeusis hitherto has been helpless in paralysis caused by head wounds, beyond the prescribing of exercises; however, this new treatment not only supplies a valuable aid to that measure, but, in fact, not infrequently first makes it possible at all. Particular service is rendered by these bandages in attempts at walking.

A supplementary statement is to the effect that by means of a similar treatment benefit has been secured with respect to standing and walking, in some individuals, in disturbance of the sense of eqilibration, owing, for example, to lesions of the cerebellum or to multiple sclerosis; here, a band being placed around the pelvis, between the trochanter and the iliac crest.

INFLUENCE OF SODIUM BICARBONATE UPON PANCREATIC SECRETION

Through experiments with dogs with duodenal fistulas, E. Wilbrand, of the Physiologic Institute of Hamburg (*Muench. Med. Woch.*, 1914, p. 1437) has established the fact that ingestion of sodium bicarbonate, especially when given in solution, causes a marked diminution in the secretion of pancreatic juice.

DARIER'S DISEASE AMENABLE TO THERMOCAUTERY

The more technical terms bestowed upon what eponymically is known as Darier's disease are, psorospermosis, keratosis follicularis, and ichthyosis sebacea corneæ. This disease consists in a hyperkeratic derangement of the skin in various portions of the body, the papules and horny crusts often becoming suppurative and giving off an intolerable stench. Its etiology does not as yet seem entirely determined, but certain psorosperms (Rainey's bodies) are named as the cause. Psorospermosis is of infrequent occurance, but 5 cases that have come under the observation of A. Pohlmann (*Arch. f. Derm.*; cf. *Wien. Med. Woch.*, No. 13, p. 571) demonstrate that it may run in families and be hereditary.

Inasmuch as hitherto this affection has proved utterly unamenable to therapy, nor heals spontaneously (sulphur, tar, mercury, arsenic, and Roentgen-rays having failed, among other measures), it affords satisfaction to learn that, in the few instances in which tried (Pohlmann corroborating K. Herxheimer), thermocauterization has effected a cure.

ANTITYPHOID VACCINATION GAINING IN FAVOR

The United States Public Health Service is distributing, for publication, the following item, and we believe this matter should interest every reader of this journal. So, we reprint it exactly as received:

An enormous increase in the number of persons seeking antityphoid vaccination is reported by the U. S. Public Health Service. Not alone is this increase manifested among the beneficiaries of that organization and government employees, but the general public is also awakening to the value of the inoculation. Reports from physicians throughout the country indicate that many are receiving the preventive treatment, and laboratory establishments have had a greatly increased demand for the vaccine. So great is the call among employees of the government that it has been necessary to issue a second edition of the Secretary of the Treasury's circular stating the localities where the treatment may be received. It is estimated that during 1914 over 100,000 persons throughout the country were immunized and it is believed that in 1915 the number will exceed 300,000. In four counties of North Carolina, where campaigns are now being conducted, it is established that 20,000 people will be immunized.

The public is seldom slow to accept an innovation of worth. The reduction of the case rate in the Army from 536 per 100,000, before the discovery of antityphoid vaccine, to 3, since inoculation was made compulsory, has not passed unnoticed. During four months of 1898 there were over 2000 cases of typhoid among 10,000 soldiers encamped in Florida; in 1911, among 20,000 men similiarly encamped, there were but 2 cases. If such a degree of immunity can be harmlessly conferred upon a body of men living under adverse conditions and whose age renders them susceptible, the conclusion is that protection can just as easily be afforded ordinary citizens.

Antityphoid vaccination is quite as simple as that for smallpox, and even children do not complain. There are no local effects other than a slight reddening at the site of the injection, and sore arms are entirely lacking. In a small percentage of cases, a mild

systemic reaction, accompanied by headache and a slight rise in temperature, occurs, but if the treatment is given at night the person's rest is undisturbed and he is entirely unaware of these symptoms. In the majority of instances, however, there is not the slightest inconvenience. The immunity probably lasts for several years, although its duration is less than that of smallpox, which frequently persists for a lifetime.

It is believed that more widespread recognition of the benefits conferred by antityphoid immunization will have an immediate effect upon the morbidity and mortality rates for the disease. As a result of sanitary measures alone, the death rate from typhoid fever has been cut in half during the last fifteen years. What has been done in fifteen years of sanitation can be accomplished in as many weeks with inoculation. It is conceivable, if immunization attains the general recognition that smallpox prevention has secured, and there is no reason why such acceptance should not be accorded it, that typhoid fever will be a rare disease by 1930. This means that even many of the older physicians of today will live to see the time when the infection will no longer be common.

One point must be considered in making such a prognostication. As immunity is conferred, the necessity for immunization becomes less apparent to the general public, and the method will, to a certain extent, be neglected. This is the situation as regards smallpox in the country today, and for this very reason the disease will persist until universal immunization is practiced. Therefore, even with perfect methods, the entire elimination of the disease is not to be looked for.

WHAT IS "GOOD WHISKY"?

In *The Weekly Bulletin* of the Department of Health of the City of New York for August 28, we find an extract from an article entitled, "A Summary of Investigations Concerning the Physiological Aspects of the Liquor-Problem," written by John S. Billings. This paper deals with the one phase of the liquor-question which we have not seen discussed, but one which, nevertheless, is of importance. Every physician has heard it stated again and again, and many no doubt so believe, that one of the greatest dangers in the use of whisky or brandy lies in the employment of cheap, low-grade, adulterated spirits. However, this idea is combated by Doctor Billings in the following words:

"The common idea that a large part of the injury to health due to the use of alcoholic drinks is caused by injurious substances, such as fusel-oil and furfurol, which have not been properly removed, or by substances added as direct adulterants, is erroneous, as is also the common notion that cheap liquors contain large quantities of such harmful ingredients. The injurious effects of the amount of fusel-oil present in ordinary saloon-liquors are trifling in comparison with the effects of ethyl-alcohol contained in them; and the principal adulterants in the cheap whiskys are water and caramel, the latter a harmless coloring matter made from sugar.

"The general conclusion is, that fine old whiskys and brandies are nearly as likely to produce ill effects as do the cheaper varieties of the present time, if taken in the same quantity; and, in general, the injurious effect is in proportion to the ethyl-alcohol contained, which seems to be the chief reason why wine and beer are less injurious than distilled liquors."

ON THE ACTION OF COAGULEN

Coagulen, which is a solution of the thrombozyme of the platelets of animal-blood, has been further experimented with and reported upon by A. Fonio, of the Bern university, and W. Kausch, of the Auguste Victoria Krankenhaus at Berlin (*Grenzgeb. d. Med. u. Chir.*, 1914, p. 642, and *Deut. Med. Woch.*, 1914, p. 754, respectively).

The former, Fonio, points out that a 5-percent solution of coagulen (originally called coagul*in*), administered either subcutaneously or intravenously, considerably reduces the coagulation-period of the blood, while, there is no danger of any embolism or thrombosis resulting. Accordingly, this preparation is of excellent service in internal and external traumatic bleeding, and likewise in hemorrhages dependent upon constitutional conditions, such as hemophilia, hemorrhagic purpura, and scurvy.

Kausch, on his part, after extended use at operations, declares coagulen to be an excellent local styptic; his manner of using being, to apply to the bleeding surface a pledget of cotton wet with a 10-percent solution, or by sharply squirting the solution upon it from a fine-nozzled (hypodermic) syringe. However, the application not being infallible, Kausch does not hesitate to employ clamps under circumstances. The pledgets may have to be repeated (removal being cautious), and in spaces, coagulen tampons. Circumstances

determine how long these should remain in place.

The author urges further experimentation, the more so, since side-effects have never been observed, also no bad influence upon the lesion or course of healing.

Considerable importance seems to attach to the statement published by H. Riedl, of Portorose, Austria (*Wien. Klin. Woch.*, No. 1, 1915), to the effect that by means of a single intravenous injection of 1 gram of coagulen he effected a lasting cessation of an uncontrollable tuberculous pulmonary hemorrhage in a seeming hemophiliac.

HOW EMETINE ACTS IN ENTAMEBIASIS

The value of emetine in amebic dysentary is so well established, remarks Randolph Lyons in *The American Journal of the Medical Sciences* (July, p. 97), that a further report of its successful use scarcely would be of general interest at the present time. Accordingly, Doctor Lyons devotes the major part of his exceedingly interesting paper to a discussion of the mode of action of this alkaloid in dysentery, first raising the question as to whether or not emetine affects deleteriously amebas that are outside the bodily tissues and, therefore, not in direct contact with the circulation; that is to say, those existing free in the lumen of the large intestine.

The results of a series of experiments and of a considerable clinical experience are presented, and these demonstrate that the amebicidal action of ipecac and of emetine is limited to the amebas actually present in the tissues, while the parasites harbored in the intestine are not directly reached by the alkaloid administered by mouth. However, when all the amebas present in the tissues have been destroyed, the dysenteric lesions of the gut heal with remarkable rapidity, and the patient is cured. Relapses, when they occur, are due to the fact that some of the amebas escaped destruction because of their being encysted. In this stage, they resist any form of medication and produce very little irritation.

However, in some 80 cases of amebic dysentery which he has treated, Doctor Lyons has observed this fact: In the majority of instances, even during periods of improvement or apparent wellbeing, the patient will admit experiencing slight abdominal discomfort, even though the stools apparently are normal. When this symptom is present, his observation has shown, some encysted parasites still remain imbedded in the tissues of the colon, and it is in cases of this kind that relapses are likely to occur when these encysted forms again become vegetative.

HOW EMETINE SHOULD BE ADMINISTERED IN AMEBIC DYSENTERY

In the paper by Lyons just cited, the writer expresses a strong preference for the subcutaneous over the oral route. He has observed that when the drug is given by mouth it is exceedingly prone to exert a drastic purgative action, especially when any considerable quantity is administered. He relates the case of a man, 44 years of age, suffering from dysentery and hepatitis, who, because of the urgency of the symptoms, was given 1-3 grain of emetine hydrochloride, both by needle and by mouth, twice a day, that is, a total of 1 1-3 grains of emetine hydrochloride daily. Distinct purgative action was produced, with marked abdominal discomfort. After two days, it was necessary to stop administering the drug by mouth, and improvement followed rapidly. In another case reported, in which the emetine was taken internally, the bowels became extremely loose and the patient became emaciated and feeble. Examination of the stools showed the presence of blood clots, pus, and mucus. When he stopped taking the drug by mouth, recovery followed promptly.

Lyons has observed, in his own case, that 1-2 grain of emetine in solution, taken by mouth, causes nausea and vomiting after an interval of an hour, followed in another hour by loose stools, together with griping and some abdominal discomfort that persisted for five or six hours. As a consequence, Lyons' conclusion is, that emetine should be given by mouth under circumstances which do not permit of hypodermic administration. When it is necessary to give the drug by mouth, it should be administered only in small doses, say, 1-6 to 1-3 grain.

The inconveniences following the subcutaneous injection are relatively much less than those after its internal use. However, several facts should be borne in mind: first, the alkaloid emetine is slightly irritant; second, the hydrochloride is slightly acid in reaction. When a small dose is injected (1-3 grain, for instance), both these factors are negligible, since the drug is rapidly absorbed. On the other hand, if a large dose, say 1 grain, is injected, it may cause considerable local pain and irritation, owing to the proportionate augmentation of the factors mentioned. Intramuscular injections cause more discomfort

than will subcutaneous ones. The inflammatory reaction thus produced at the site of introduction may persist as an infiltrated area for one or two weeks. There is no doubt that such a reaction seriously retards the absorption of the drug.

For the reasons enumerated, Doctor Lyons advocates the repeated injection of small doses, especially when prompt and lasting effects are desired. As a rule, he gives emetine in 1-3 grain doses morning and evening. In ordinary cases of amebic dysentery in adults, 1 grain daily is sufficient, and Lyons has never seen a case of dysentery in which more than 2 grains daily were required, provided it was given in small, repeated injections, as just suggested.

The emetine-treatment should be continued, as a rule, for four or five days after the stools apparently are normal. In the early days, the tendency was to discontinue the emetine as soon as the stools became formed. This is now known to be a mistake. In general, the duration of treatment is from one to two weeks, and it is seldom wise to prolong the administration of the drug beyond two weeks, even when a diarrheal condition exists, unless active entamebas still are found in the stools. The diarrheal condition may be owing to an intestinal catarrh or to an associated bacillary infection, or possibly even to the drug itself.

During a course of emetine, Lyons has found, moderate purgation with castor-oil or a laxative saline often proves beneficial.

THE ILL EFFECTS OF EMETINE

Ill effects from emetine are rarely encountered, remarks Randolph Lyons in *The American Journal of the Medical Sciences* (July, p. 97), unless the dosage of the alkaloid is unusually large or its administration prolonged for too long a period. In the treatment of dysentery, given in too large doses or for too long a time, it may produce or maintain a diarrhea. Allen saw nausea and vomiting caused by a single dose of 4 grains, although no other ill effects were observed.

Other physicians have reported mild attacks of peripheral neuritis following the prolonged administration of the emetime. Eshleman reports one case in which a general purpuric eruption developed in association with severe peripheral neuritis in a patient who had received 2 grains of emetine daily for five or six days. In still another case, reported by Spehl and Colard, there occurred temporary muscular paresis, facial edema, rapid pulse, and diminished tendon reflexes, from which the patient recovered but slowly. Serious symptoms likewise were met with after the intravenous introduction of large doses of emetine, and Lyons recommends adherence to the original dose as proposed by Rogers for the intravenous use, namely, 1 grain.

The evidence shows, therefore, that, when given in usual dosage, emetine seems to be a perfectly safe remedy, but that very large doses are not entirely without danger. No death from emetine poisoning has ever been reported, so far as we can ascertain, and there is no evidence that permanent damage has ever followed its employment.

GAUGE FOR DOSE-SUFFICIENCY OF MAGNESIUM SULPHATE IN TETANUS

While magnesium-sulphate therapy for combating tetanus has gained a firm foothold, the problem by no means is a closed one, and one of the decided drawbacks in its application as yet is, the impossibility of knowing whether a given amount of the drug administered is enough or not enough. An attempt, seemingly promising results, to find an answer has been made by J. Schuetz, of Klagenfurt (Austria), who reports his observations in the *Muenchener Medizinische Wochenschrift* for January 26, page 135.

Thus far, the plan submitted rests solely upon experiments with rabbits; nevertheless, facts elicited are sufficiently encouraging to warrant investigation in wider circles. What may give added significance to these experiments is the fact that they were conducted at the Pharmacologic Institute of Wien and communicated to the Physiologic-Morphologic Society; further developments to be published in the *Archiv fuer Experimentelle Pathologie.*

The critical factor to be utilized in giving magnesium sulphate in controlling tetanic outbreaks is the fact observed that effective amounts invariably determine a marked fall of bodily temperature.

The other observation, and one of highest importance, is, that this reduction of temperature just mentioned positively is not consequent upon the general "narcotic" state induced by the magnesium, but is a phenomenon *running parallel* with the appearance and progress of the former, and arising, presumably, from a direct action upon the heat-regulating centers. Indeed, the temperature begins to drop before the magnesium has caused even the slightest trace of paralyzing effect, much less one of "narcosis".

Reversely, the temperature-curve, after narcotizing doses, exhibits a pronounced parallelism with the time rate of the setting-in of the symptoms of paralysis and narcosis. Actually, a little experience permits of basing a prognosis, as to the course of a magnesium-toxicosis, upon the relative steepness of the temperature-curve.

Furthermore, studies concerning cumulation of the drug disclosed another interesting fact, namely: when the magnesium salt is injected in small doses at regular intervals, the temperature falls at even rate; while, after a certain *total dose* has been reached, the paraylsis and narcosis appear rapidly and also, as a rule, with a steeper drop in the temperature-curve.

Animal-experiments are not determining; yet, here we have a most delicate indicator for measuring the influence of magnesium, and the revelations point to greater possibilities to be expected from a concerted, continuous control of the patient's temperature.

"THE MOST POWERFUL ANTISEPTIC:" HYPOCHLORITE SOLUTION

Telegraphic reports of the discovery in France of the "most powerful antiseptic" have appeared recently in American newspapers. This antiseptic, we learn from English and French medical exchanges, consists of a mixture of calcium hypochlorite, sodium (or calcium) carbonate, and boric acid.

Paris Medical (August 28, p. 318) states that this antiseptic has been worked out by Dakin and Carrel, the former of the Herter Laboratory, New York, the latter, the well-known representative of the Rockefeller Institute, and both now serving the latter institution in France. These investigators reported this important work at a meeting of the French Academy of Medicine, held August 2. We learn that they overcame certain disadvantages connected with the use of chlorinated lime by neutralizing its acidity with sodium carbonate and rendering it stable by the addition of boric acid.

As pointed out in an editorial in *The Lancet*, the antiseptic power of this mixture depends upon the presence of free hypochlorous acid, the bactericidal power of which has been known for a very long time. However, as Dakin shows in his excellent paper in *The British Medical Journal* (Aug. 28, p. 318), hypochlorite, as ordinarily prepared, is of extremely variable composition, containing free alkali and sometimes free chlorine, consequently being irritating when applied to wounds.

Dakin describes the method of preparing a hypochlorite solution that will retain the antiseptic qualities of the hypochlorous acid unchanged and which is much less irritating than the various preparations of chlorinated lime heretofore in use.

The problem to be solved is, to secure a substance or mixture that will be practically neutral in reaction under all conditions and especially when in contact with wound-tissues. This result is secured by the addition of boric acid, after the decomposition of the chlorinated lime (bleaching powder), with a solution of sodium carbonate. Boric acid is not added for the sake of gaining the insignificant antiseptic action of that substance, but, rather, to secure and maintain chemical neutrality, thereby avoiding the irritating action of free caustic alkali. It is stated that, if such an alkali is formed even momentarily when the solution is in contact with the raw tissues, it will at once be neutralized by the boric acid or acid borates present in the solution.

To prepare this solution, 140 Grams of dry sodium carbonate and 200 Grams of chlorinated lime are dissolved in 10 liters of water; the clear liquid is siphoned off, then 40 Grams of boric acid is added to the filtrate. The resulting solution, while, according to Dakin, not the "most powerful antiseptic known," certainly is exceedingly active and probably the least irritant one thus far devised.

Another important study of hypochlorite preparations is reported, in *The British Medical Journal* for July 24, by Smith, Drennan, Rettie, and Campbell, of the department of pathology of the University of Edinburg. These gentlemen combine the chlorinated lime with calcium carbonate and boric acid, the result being a product which may be used either as a dry powder, in a solution or as a gas. They state that comparative tests confirm the conclusion that "hypochlorous acid is the most powerful antiseptic known." The compound arrived at by these gentlemen is somewhat different from that produced by Dakin and Carrel, but the preparation by their process undoubtedly acts upon wounded tissue in the same way as does the solution produced by Dakin and Carrel's formula.

This inquiry is one of the utmost interest and importance. If we may believe the French, English, and American investigators who have been engaged in this work, the results obtained will prove of very substantial benefit to the profession. If any of our

readers desire to do experimental clinical work along these lines, we shall be much pleased to communicate with them.

EMETINE IN PYORRHEA ALVEOLARIS

Four cases of pyorrhea alveolaris are reported by Lyons (*Amer. Jour. Med. Sci.*, July, p. 97), in which the disease was cured, apparently, by the subcutaneous use of emetine. Doctor Lyons declares that it is too early to consider the question of relapses in this disease or to state definitely whether it will be necessary to give further courses of treatment with emetine in these cases in order to maintain the cure. However, the tendency of amebas to encyst and the fact that emetine given subcutaneously affects amebas only in the tissues must be borne in mind. In severe cases, where there are pus-pockets, he is of the opinion that combined local and subcutaneous use of the drug may be required to obtain the best results.

After a few injections of emetine, Lyons says, the amebas disappear from the gums and subjective and objective improvement is quickly seen. The tendency of the gums to bleed, usually so marked in this affection, is rapidly controlled by means of the emetine injections. He concludes with the statement that "emetine, subcutaneously and locally, has been shown to be practically a specific in pyorrhea alveolaris."

In view of the recognition by the medical profession of the importance of this disease as a factor in serious metabolic diseases, it is desirable that every physician be conversant with this method of treatment and urge its importance upon his associates in the dental profession.

BACILLARY INFECTIONS OF THE URINARY TRACT

Infections of the urinary tract are much more common than is generally supposed, according to F. C. Madden (*Lancet*, Aug. 7, p. 267). As a rule, there is an increased frequency of micturition; also considerable burning and irritation during and after the passage of the urine, which often is of a peculiar, characteristic cloudy appearance, owing to the suspension of fine granules in the fluid. Sometimes there are presented the common symptoms of cystitis, while in other cases there may be rigors, pain in the back and loins, and associated rise of temperature, pus being found in the urine when the attack is at its height. Under these circumstances, it is not uncommon to find a pure, or almost pure, culture of the bacillus coli in the urine.

The best results are obtained by the use of bacterins, but alkaline diuretic mixtures, followed later by a combination of hexamethylenamine and acid sodium phosphate will afford relief. To effect a permanent cure, the author advises use of the vaccines subsequent to the medicinal treatment.

Doctor Madden finds that women are peculiarly liable to these urinary infections, probably as a result of accidental contamination of the urethra through the vagina or rectum.

Doctor Madden's observations are of peculiar interest. It has been found that a very large percentage of the mild forms of cystitis so frequently observed in general practice reveal the presence of the bacillus coli in the urine, when this is examined bacteriologically. These cases often respond beautifully to bacterin-treatment, although such remedies as hexamethylenamine and arbutin generally are indicated, and these, when properly used, vouchsafe brilliant results.

HEXAMETHYLENAMINE

Hexamethylenamine, which, in the middle nineties, was introduced to the medical profession as a urinary antiseptic, by Nicolaier, of Berlin, is discussed at some length by C. J. Massinger in *The Eclectic Medical Journal* for June (p. 292). Part of this drug is excreted unchanged, but a large portion is decomposed, with the liberation of formaldehyde in the urine; and it is this free formaldehyde which renders it valuable in this direction. Hexamethylenamine has proved particularly useful in the treatment of infections of the genitourinary tract, as for instance in pyelitis, cystitis, prostatitis, and urethritis. Of course, if there is tuberculosis of the kidney or calculus, surgical intervention may be required; still, preceding operation in such cases, Massinger insists that hexamethylenamine should be administered.

If there is albumin in the urine, the doses must be kept down. Usually 5 grains four times a day or 7 grains three times a day will suffice, and it is but rarely necessary to give as much as 15 grains at a dose.

Massinger asserts that hexamethylenamine is less irritating to the kidneys than salol, and more efficient as an antiseptic. The same may be said as to copaiba, santal, and oil of turpentine. It is a good remedy in gonorrhea and should be administered from the

beginning, although in relatively small doses, say 5 grains four times a day.

Perhaps we may be permitted to add at this point that hexamethylenamine is effective as a urinary antiseptic only when the urine is acid. Consequently, in order to make it of value in the treatment of alkaline cystitis or other alkaline conditions of the urine, it is desirable to administer with it acid sodium phosphate, this probably being more effective as an acidulator of the urine than any other single remedy in use.

Doctor Massinger also speaks highly of hexamethylenamine in the treatment of gall-bladder infections, declaring that it is a most useful remedy in cases of cholecystitis subsequent to operative intervention. It is also of no little value, and in his opinion "perhaps our best remedy," in acute colds and for those suffering from acute or chronic bronchitis. Furthermore, it is worthy of a trial in any stage of acute or chronic rhinitis and other inflammatory diseases of the respiratory tract. Massinger thinks the use of this drug greatly lessens the possibility of the complications of acute rhinitis, such as sinusitis, otitis media, and bronchitis. For these conditions he advises large (10-grain) doses, accompanied by copious drinking of water three or four times a day. When given both in acute and in chronic bronchitis, he declares that hexamethylenamine produces results that cannot be compared with those from the remedies usually employed. In such cases, he has administered calcium iodide [calx iodata?] along with the hexamethylenamine, using also anything else that may be indicated.

BACTERIN-TREATMENT OF BOILS

The most striking and consistently successful results from bacterin-treatment are to be seen in the management of boils and furunculosis, observes F. C. Madden in *The Lancet* for August 7 (p. 267). So uniformly successful has this method of treatment been in Doctor Madden's hands that he now employs no other. The stock bacterins are utilized and have been found rapidly successful. He begins with an injection of 100 million staphylococci, following in five days with a 500-million dose, and after a similar interval increasing to 1000 millions. This series of three injections usually suffices to cure in an average case; but when the disease proves resistant even 5000 millions of the dead bacteria may be injected, the dose being gradually increased up to this point.

If the stock bacterins fail, then an autogenous bacterin should be prepared.

In association with this treatment, Madden advises dressings with iodine, boric acid or even antiphlogistine. Some form of yeast may be given internally, also calcium sulphide or the lactate or chloride of calcium.

We may suggest that a more elegant method of increasing the number of antibodies is, to prescribe nuclein instead of the yeast advised by Doctor Madden.

The treatment, as a whole, is excellent, and we believe will be found successful in the majority of cases.

POTASSIUM POISONING IN NEPHRITIS

In an elaborate series of experiments, undertaken by Wilson G. Smillie and reported in the *Archives of Internal Medicine* for August 15 (p. 330), it apparently is shown that the potassium salts are peculiarly toxic when given to individuals suffering from nephritis. The disease was induced in rabbits by means of uranium. In such nephritic rabbits, the ingestion of 1 gram of potassium chloride invariably caused death "with great suddenness." Doctor Smillie is of the opinion that death was not consequent upon the salt action, but, rather, upon the direct action of the potassium-ion on the heart-muscle.

Some observations on the effect of potassium chloride when given to patients suffering from chronic nephritis showed that this salt (potassium chloride), in doses having no effect whatever upon normanl idividuals, will cause acute poisoning when the person is nephritic. This acute poisoning is ascribed to the fact that, when the individual is suffering from real disease, the drug is not excreted and, therefore, quickly reaches a dangerous degree of concentration in the blood.

These observations have considerable practical value, inasmuch as potassium salts are frequently prescribed, especially as diuretics and alteratives, for persons suffering from diseases of the kidneys. If Smillie is right in his conclusions, potassium is a substance that always should be withheld from these people.

ALIMENTARY FEVERS

By means of ingenious and exact experiments (injection of various salts and sugars into the portal system), E. Loewegren (*Wien. Med. Woch.*, Mar. 13, col. 495) has incontestably proved correct the contention of Finkelstein, that a fever may rest purely upon an alimentary basis.

Miscellaneous Articles

Intravenous Medication, Especially with Sodium Salicylate and Guaiacol

HAVING read with much interest Mr. Carl Nielsen's article on intravenous injectino of salicylic acid and guaiacol (CLINICAL MEDICINE, August, p. 720), I am tempted to recite the results of my personal experience in this direction. To begin with, I may state that I have had considerable experience with intravenous medication, having, in the course of several years, given upward of one thousand such treatments and employed a number of preparations of various composition. As long ago as in 1906, when I last paid a visit to Europe, continental physicians were administering remedies intravenously, with some remarkable results, and meanwhile the practice has become popular among the progressive element.

As to this mode of giving sodium salicylate and guaiacol, Mr. Nielsen's article deals only with experiments conducted with animals, while we physicians are dealing with the human organism, with corresponding differences and responsibility, and it may be of interest to learn that solutions made after the formulas given by him have been injected into the veins of patients, and that some striking results were witnessed, in the way of symptomatic cures on the one hand, but of disasters, on the other. Of these facts I have personal knowledge. I can say, for one thing, that, although quite severe for a few hours, the reactions from the large doses of salicylates and guaiacol advised sometimes produce results quite satisfactory to the patient, as well as to the physician. However, these large doses must be employed with extreme caution and only when the patient may be under the constant observation of the physician for full twenty-four hours. And this brings up the question of the advisability of using such large doses of these two drugs, when the same results can be secured by the smaller dose, more frequently repeated.

For the past four years, I have been using a solution that contains 5 grains of sodium salicylate in each 5 Cc. of my favorite solution, besides the creosote, calcium, phosphorus, iron, magnesium, sodium, and potassium, and the results have been uniformly satisfactory. In all cases where mercury is indicated, I add to the dose, mercuric chloride, 1-50 to 1-30 of a grain.

In cases where arsenic is indicated, including syphilitic infections, I add cacodylate of sodium, in doses of from 3 to 12 grains. Neuritis, certain skin diseases, neurasthenias, and anemias often respond to the cacodylate in a remarkable manner. But by far the greatest wonder-worker in early tuberculous conditions, tertiary lesions, bronchitis, asthma, glandular troubles, and pneumonia, not to mention others, is the combination of iodine (in the form of a 5-percent glycerin of iodine) with the solution of sodium, potassium, and calcium, salicylates, and the rest.

Sodium salicylate is an antacid, and may be used successfully in many conditions other than rheumatism, where there is a reduced systemic alkalinity, as well as to acid patients, who, according to Duncan, constitute nearly 50 percent of our chronics. Sodium salicylate at first increases the red blood-corpuscles and decreases the number of the white; but, if continued too long, produces exactly the opposite effect. In full doses, it often produces depression, and for this reason should be administered with caffeine.

I myself use a sterile solution containing 4 grains of sodium salicylate, and 2 grains of caffeine in 2 Cc. of double-distilled and sterilized water. I seal the solution in ampules, so that there is no danger of contamination; and it keeps indefinitely. I administer from 1 to 3 ampulefuls at a treatment, and in acute conditions repeat the dose after eight hours, unless improvement sets in before the expiration of this interval. Where systemic improvement is indicated, I frequently add 1 or 2 ampulefuls to the solution mentioned above, bringing the dose up to 12 or

15 grains of the sodium salicylate, and observe no unpleasant reaction.

The "soluble" iodine, as prepared by resublimation and held in solution in sterile glycerin, in the proportion of 5 percent, is the ideal way of employing iodine wherever indicated. I administer it in doses of from 3 to 30 minims of this glycerin-solution, adding normal saline solution when giving the larger doses, in order to make up a larger bulk for diluting the iodine.

I could report a hundred cases in which the patients have been symptomatically cured or greatly benefited by means of intravenous medication after all other methods have failed. We often fail in the administration of drugs by mouth because the condition in the stomach is such that the drugs are changed to insoluble substances that are not assimilated.

The technic of making the injections is comparatively simple, and experience teaches one to tell, largely by the sense of touch, when the point has entered the vein. Any physician first taking up intravenous medication would do well to get in touch with one familiar and experienced with the work and spend a day or two as a pupil. It gives one confidence; and, if the first two or three injections are given under the direction of a competent man, it saves trouble and anxiety, for, in administering remedies intravenously, care must be exercised not to get the solution into the tissues surrounding the veins. All these solutions are alkaline, and if the solution gets into the tissues there results a slough like that caused by caustic-alkali, which is slow to heal, and it generally is impossible to get the patient to submit to further treatment.

One hesitates to name the large number of disease-conditions that have responded to intravenous treatment, as the criticism of laying claim to a cure-all is likely to be made. Many chronic conditions are due to the same cause—defective elimination or the presence of some toxin; and the solution containing sodium salicylate, iron, potassium, sodium, magnesium and calcium, with creosote, arsenic, mercury, iodine, or nuclein, as indicated, clears up the condition and restores normal functioning of the organs, terminating in recovery of health.

A careful analysis of a series of cases showed increase in the number of red blood-corpuscles, a filling up of the shrunken ones, a decrease in the excess of the white cells, an increase in the hemoglobin showing, and a permanent rise in the blood pressure in anemic and pretuberculous conditions; thus proving the solution to be a blood-builder, while also increasing its volume.

W. F. Fowler.

Kalamazoo, Mich.

ANNUAL MEETING OF THE AMERICAN MEDICAL EDITORS' ASSOCIATION

The annual meeting of this Association will be held at the McAlpin Hotel, New York City, on October 18 and 19, under the presidency of H. Edwin Lewis, M. D., editor of *American Medicine*. A most interesting literary program has been prepared upon important subjects of particular interest to every medical editor in this country.

Coming at a time when clinics and operative work are in full swing, an unusual opportunity will be afforded to those members who desire to observe clinical work, and for those who are interested in the business side, a more propitious time and place could not be selected.

The annual banquet will be held at the McAlpin Hotel on the evening of October 19. These delightful occasions of the American Medical Editors' Association are events long to be remembered, and the local committee assure us that this banquet on the evening of October 19 will exceed all previous efforts.

INTRAVENOUS USE OF ARSENIC IN TUBERCULOSIS

While reading the article in the August issue of Clinical Medicine, on the treatment of rheumatism and tuberculosis, I am reminded that I wrote to Dr. Karl von Ruck during the year 1896, suggesting that he try arsenates of sodium or strychnine, hypodermically, for tuberculosis. However, the Doctor was so well satisfied with tuberculin, which he was using, that he would not try anything else. If you can get someone to try that preparation intravenously and watch its effect on the leukocytes, I believe he will find the results to be more favorable than secured from some other things now in use. This, in connection with one of the recent iodine preparations, such as ideol, it seems to me, would constitute a good combination. They could be given intramuscularly as well as intravenously. The arsenate of sodium should be given in increasing doses, up to the equivalent of 35 or 40 drops of Fowler's solution, three times daily.

Wm. A. Hammond has reported some cases of chorea which yielded to the hypodermic use of arsenate of sodium, in increasing doses,

which failed to yield to Fowler's solution given by mouth. Besides, the physiological effect of arsenic passed off after suspending the use of the Fowler's solution and using the sodium arsenate instead. The patients could tolerate much larger doses of the latter. Some cases were reported some twenty-five or thirty years ago, when Metchnikoff's theory was not yet promulgated.

I have an idea that leukocytosis and the general metabolic processes would be greatly stimulated by the use of arsenic and strychnine hypodermically. I have not been so situated that I could make a practical test as suggested, as I should have to have constant supervision of the patient to do so. If you think it worth while, perhaps you will have this test made. I would suggest that the relative effects, intravenously and intramuscularly, be ascertained.

The above might best be used with normal salt-solution, even when given intramuscularly. I suspect that a great deal of the benefit of the intravenous salicylic-acid treatment is owing to the salt-solution.

J. M. Pinkston.

Little York, Ind.

[Would not sodium cocodylate provide a good form for the administration of the arsenic? This salt is very soluble and is much used subcutaneously.—Ed.]

EMETINE IN AMEBIC DYSENTERY. SMALL BABIES

I wish to report an interesting case of amebic dysentery treated with emetine hydrochloride. When called to see a Miss B., on April 23, 1914, I found a woman of about 40, suffering from a chronic diarrhea. I think she was just about the thinnest person I have ever seen. The history given me was, that she came from an adjoining county, and that she had had this trouble for over two years and had been under the care of several physicians. The discharges were of a thin, pea-soup character, and numbered from twenty to twenty-five a day, and were quite offensive.

Suspecting amebic dysentery, I put her on emetine hydrochloride twice a week. I gave her, in all, 15 doses, and she made a rapid recovery. She has remained well ever since, and has gained 40 pounds in weight.

I see in the current number a list of small babies, and wish to report about one born here in 1906. On February 4 of that year, I was called to deliver a woman who was in the last stages of consumption, and the girl baby born weighed 1 1-2 pounds. The mother herself weighed only 70 pounds, and she died a few days after the delivery.

I worked over the child for about twenty minutes, and, as it did not cry, gave it up, as the mother needed my attention. I wrapped the baby in a blanket and put it in a very warm place, then helped the nurse in taking care of the mother. After the child had been left for a while, it made some feeble sounds, whereupon we took it up again. They fed it with a medicine-dropper for several weeks. The last time I saw it, the child weighed 30 pounds and was 30 inches tall, being then 6 years old, and it was one of the dearest, brightest little chatterboxes I have ever seen.

J. Manson.

Lincoln, Cal.

EMETINE IN TUBERCULOSIS

I have read your editorial, in the September number of Clinical Medicine, on "Emetine Employed in Tuberculosis," and have become much interested. There is one thing I conceive would make Doctor Tatchell's method almost impracticable, and that is the use of the hypodermic method. Of course, hypodermics can be used in acute attacks of hemorrhage, but the use of 1 or even 1-3 grain of emetine every day, hypodermically, would seem almost impracticable, unless administered in a hospital where patients can not well object.

Now, what I should like to know is, Can emetine be given three times a day by the mouth and obviate this constant pricking of the skin with the needle, and, yet, with a fair show of getting systemic impression? I am speaking principally of the pain and inconvenience of the hypodermic method. Is the oral route practicable? If not, the suggestion will lose its force.

C. L. Myers.

Covington, Ind.

[The hypodermic method of administering emetine is the one to be preferred, for a number of reasons. One of the most important is, that, when the alkaloid is given by this route, the patient is compelled to keep constantly in touch with the physician, who, as a result, not only has the advantage coming from personal observation of the results of this treatment, but also is placed in a better position for keeping watch of the diet, clothing, exercise, and habits of the patient,

and better prepared for the complications, big or little, which need to be watched so closely.

Only when the drug is administered hypodermatically can the physician be sure of the exact amount actually present in the patient's body. We never know what becomes of medicine administered by the mouth. It may be absorbed, and it may be passed through the bowel unchanged. Also, emetine is a gastrointestinal irritant, not infrequently causing nausea and vomiting and quite often diarrhea; and it is important that the function of the alimentary canal of every tuberculous patient be kept intact.

We do not advise continuing the emetine injections indefinitely. A course of treatment lasting a week or thereabouts may properly be alternated with a course of medication lasting two or three weeks in which nuclein, guaiacol or creosote, codliver-oil, calcium sulphide, tuberculin or other indicated remedies may be employed. But it is just as easy to give the patient a course of hypodermatic injections of emetine as it is to treat him with tuberculin.

Doctor Tatchell began treatment with 1-3-grain doses, increasing to 1 grain daily. Raeburn, who was one of the first to try emetine in tuberculosis, and who regards the drug as an exceedingly valuable decongestant for the treatment of early phthisis, gave it in smaller doses. Our suggestion would be to begin with 1-3 to 1-2 grain daily, hypodermatically, dividing the dose between morning and evening, and gradually increasing.

We hope some of our readers will try the method. As yet it is, practically, untried, but the few reports thus far received warrant further work along this line. Used in the dosage recommended, it can do no harm, the only inconvenience being occasional complaints of slight transient pain at the seat of injection. When thus used, in the smaller divided dosage, the discomfort is usually inconsiderable. See abstract of Doctor Lyons' article, page 948.—Ed.]

EMETINE CURATIVE IN FOUR CASES OF TYPHOID FEVER

In the last six weeks I have treated 4 cases of fever, in all of which the clinical typhoid features were present. Large doses of quinine during four or five days had failed to control the fever in these patients, whereupon the quinine was stopped and 1-2-grain doses of emetine were given twice daily. The temperature became normal within from three to five days.

I believe that emetine, administered hypodermically, will control typhoid fever, or, in other words, abort an attack during the first eight or ten days. Everyone of these four patients had tympany, abdominal soreness, and gradually ascending temperature, in spite of 10-grain doses of quinine sulphate night and morning. Three of them had nosebleed; in one, there was blood in the stools. Under any other plan of treatment, I should have expected to see them have a three weeks' siege at least.

J. S. Carriger.

Chelsea, Okla.

[Please read the editorial on this subject, printed on page 894, this issue.—Ed.]

EMETINE IN MENORRHAGIA. PYORRHEA

Thinking that others might be interested in a case which I have dismissed today as cured, I shall go into detail as to the manner in which the case was handled.

Miss A. L., age 14, American, began menstruating for the first time on July 4. She attended the Independence-Day celebration, and was caught in the rain. That evening she had severe pain in the back and down the limbs, with cessation of the menstrual flow. The parents did not know the girl had commenced menstruating, so nothing was thought of the matter, and consequently nothing was done. On August 26 she menstruated again, and the flow continued until September 9, when I was consulted. At that time the patient was still flowing heavily, completely saturating five or six napkins daily. She had pain in the back and down limbs.

I gave ergotin, gr. 1-2, and hydrastin, gr. 1-5, every two hours, with instructions to keep the patient off her feet. There was no change for the better during the next two days. Therefore, on September 11, in the evening, I gave her 1-2 grain of emetine hydrochloride hypodermically; with ergotin, gr. 1, hydrastin, gr. 1-2, and gallic acid, grs. 3, by the mouth. I also instituted vaginal douching, as follows: hot water, as hot as could be borne, for three minutes; ice water, half a minute—using 3 quarts of hot water, and ice water q. s. On the 12th I gave two hypodermics of emetine hydrochloride, i. e., one morning and evening.

On the 13th the flow had slackened perceptibly, but the treatment was continued as on the previous day. On the morning of the

14th the flow had almost ceased, but I gave the emetine as before, and continued the other treatment. By evening the flow had stopped entirely, so I did not repeat the emetine.

The patient was kept in bed during all this treatment, and although I dismissed the case on the morning of the 15th, as she was feeling perfectly well, except for being a little weak, I ordered her to remain in bed that day, and to sit up the next, walking about the house on the third day, and, if nothing more occurred, returning to school on the 20th.

While I am well aware that this single case does not prove anything, yet I give it as a suggestion; and if others have had any experience with emetine hydrochloride in such cases, I should like to hear from them. I might have had the same results had I not used the emetine, but we know that emetine controls hemorrhage from other organs of the body, so why not from the uterus?

I have been using emetine hydrochloride during the past year in the cases of pyorrhea which have come to me, with most satisfactory results. A few weeks ago a boy of 17 came to consult me, whose gums were a mass of spongy, bleeding, necrotic flesh. They were the worst I have ever seen, and I have seen *some!* I gave him a hypodermic of emetine hydrochloride, and sent him away with a good tooth paste and instructions to wash the teeth after each meal, and to come back in three days.

The boy lives 12 miles out in the country, and could not come regularly, as it was harvest time and they were very busy. He had four treatments, ranging over ten days, and the gums when he discontinued treatment were in a normal condition. I did not dismiss the case, but he stopped coming. I instructed him to go to the dentist and have his teeth cleaned, which, up to this time, he has not done. Then he was to continue the emetine treatment for a while longer.

My other cases, while not so brilliant, have made most satisfactory recoveries. In most of these cases I have had the patient use boremetine as a wash, giving the emetine hydrochloride hypodermically.

F. E. Braucht.

Coleridge, Nebr.

STRIKING RESULTS FROM EMETINE IN DIVERSE HEMORRHAGES

One hardly can pick up a medical journal without finding in it something about emetine as a curative agent. My own experiences with this alkaloid have not been many, but they are of a nature to give me a certain amount of confidence as to its therapeutic value. Ipecac root was used quite extensively by previous generations, but latterly has rather been ignored, until recently restored to favor, in the form of emetine, its principal active constituent. One objection to its extensive use may be the high cost; but, this should be overlooked if, in any serious trouble, it is practically a specific, or when we wish to use it in emergencies. The extent it now is being prescribed among us, and even more so in Europe, speaks for its value.

Case 1. The first time that I used emetine was in a case of chronic dysentery of at least five or six years' standing. I made no microscopic examination as to whether it was of the amebic type or not, but, according to the final results, I take for granted that it was. I gave 1-2 grain of the alkaloid hypodermically every third day until ten doses were given; then another such course of ten doses every fifth or sixth day. The man is entirely cured, having had no diarrhea and no blood in the stools for about one year.

Case 2. A man about 25 years of age came into my office at 7 o'clock in the evening, bringing with him a pint of urine colored red from blood. I gave him a hypodermic injection of 2-3 of a grain of emetine, told him to go home (1-8 mile) and immediately void into a bottle all the urine in his bladder, to serve as a guide, and then at 9 o'clock to empty his bladder again, put that in another bottle, and then send me the two specimens. He did so. Specimen No. 1 was bright-red, that passed one and one-half hours later was absolutely free from discoloration.

Case 3. A man afflicted with diabetes had had, when consulting me, renal hemorrhage about every third day for some two weeks. Emetine-injections always have arrested these attacks and he has had but one very insignificant hemorrhage for the last four weeks.

Case 4. I was called to a lady who had had a tooth extracted three hours previously, and half an hour before I was called an artery in the socket started bleeding, and she had lost about one quart of blood. I gave her 1-2 grain of emetine hypodermically, whereupon the bleeding ceased in about three minutes. The same result would, of course, have been impossible in the case of a larger artery.

Case 5. This was an instance of intestinal hemorrhage in typhoid fever. The first

time it occurred, about one quart of blood was lost in bed, with, no doubt, more blood remaining in the bowel. I gave, at once, 1-2 grain of emetine, hypodermically, every five minutes, for four doses. However, the hemorrhage stopped with the second dose, and the two after that were to make doubly sure. This amount (2 grains in twenty minutes) caused vomiting. Of course, ulceration continuing, resulted in two more attacks of hemorrhage, but emetine arrested the flow each time; although, eventually, the patient did succumb.

Case 6. Pyorrhea, where the four lower incisors were very loose, the gums retracted, and much filth, discharge, and bad smell. The patient received four treatments, both local and hypodermic, with emetine, and results were good, the discharge stopping, and the teeth fastening considerably right after the treatment; however, the person has not showed up since.

JOHN A. WEIERBACH.

Quakertown, Pa.

METHOD OF USING EMETINE IN PSORIASIS, AND, THE RESULTS

I have employed emetine hydrochloride in the treatment of psoriasis, both hypodermically and intramuscularly, and have obtained in this affection the best results by the latter method. The site for the intramuscular injection selected by me has been the deltoid muscle. First the skin is painted with tincture of iodine, and then, after a few minutes, the excess is washed off with alcohol. Next, the emetine, 1-2 grain in sterile solution, is drawn into an ordinary Luer syringe having a 5-8-inch needle. The needle is thrust quickly into the muscle and the solution slowly expelled into the tissues; then, withdrawing the needle, gentle massage is applied for a minute or so over the injected area. Hardly any pain will be felt, nor any discomfort subsequently. This treatment is given once a week for two consecutive weeks, thereafter twice a week. After administering six or seven injections, if there is no improvement, allow an interval of two weeks to elapse, then repeat the treatment.

Cases of psoriasis in which this treatment proves effective are found to be associated with pyorrhea, and in proportion as the skin lesion clears away, the pyorrhea also improves. Here are four cases that illustrate this fact:

Case 1. Mrs. B. Had psoriasis for eight years. Was treated with various local applications, but had only slightly improved and always had relapses. I gave her seven emetine injections and then waited two weeks, at the end of which time the lesions began to fade. I gave two more injections, when the patient had to leave the city for one month. When she returned, her skin was clearer and showed no traces of the former eruption. No other medication was used. The patient had pyorrhea, which also greatly improved.

Case 2. Mr. E. Had psoriasis for twelve years. He showed no signs of pyorrhea. He received 14 injections of emetine, but the psoriasis did not yield.

Case 3. Mrs. T. Had psoriasis for two years, also showed pyorrhea. She received 9 injections of emetine, and has improved a great deal, the lesions fading but not entirely gone. I am still continuing treatment.

Case 4. Miss F. Has had psoriasis for five years. Shows no signs of pyorrhea. She has received 16 injections of emetine, but the lesions remain about the same.

Conclusions.—Many cases of psoriasis are associated with pyorrhea, and under emetine treatment the psoriasis disappears as the pyorrhea improves. In the other cases, those without pyorrhea, the psoriasis is associated with some other condition, one that is not affected by emetine. Thus it seems that often psoriasis is due to pyorrhea, which constitutes an etiological factor.

NOEL H. W. CAMPBELL.

New York, N. Y.

[Doctor Campbell does not inject the emetine quite as frequently as most physicians. Usually the 1-2 grain dose is administered at least two or three times a week at the beginning of treatment—sometimes daily. But the doctor's results were good.—ED.]

CURING SEASICKNESS

The writer was much interested in the article on seasickness, in the August number of the CLINIC, concerning the manner and method for its treatment. Whatever may be the cause of seasickness, what the sufferer wants most to know about it is, What is the most effective treatment for this distressing affliction, which one victim once said caused him during the first half hour to fear that he would die, and the next half hour, that he wouldn't die?

The writer on one occasion experienced carsickness, and he found that munching some popped corn relieved the trouble. Subsequently he found that the same simple remedy

afforded relief in seasickness, also. An occasional small sip of brandy sometimes will give relief.

As to the causation of the trouble, the writer is of the opinion that it is caused by the alternate rising and sudden dropping of the bow of the vessel, and he has found by personal experience that by taking a position as near midship as possible on a steamer or vessel, and closing the eyes, one is less liable to become sick. The sensation caused by the rising and dropping of the bow and stern of a steamer is much the same as that experienced by many persons in a swing.

Whether this naupathic condition is due to "irritation of the vestibular apparatus" or to "irritation of the center in the cerebrum," is a problem that remains open for solution. It reminds the writer of an explanation given by a classmate to his preceptor. The young gentleman had indulged too freely in a bout with Johnnie Barleycorn, and, being called to an account, he explained the matter by saying that the "molecular polarity of his cerebrum became slightly out of equilibrium."

Geo. D. Stanton.

Stonington, Conn.

CAUSE AND PREVENTION OF SEASICKNESS

The article on seasickness appearing in Clinical Medicine for August prompts the writer to give his experience with that trouble, together with a few brief remarks regarding what appears to be a plausible theory of its cause and a means of prevention.

The writer and another young man boarded a steamer at Sandusky, Ohio, for Put-in-Bay, Lake Erie, with a high wind blowing and the sea choppy. Both of us located ourselves at the forward end of the boat, the writer with his chair slightly tilted and feet on the railing; but not for long, for, when the boat left the bay for the open lake, it started to pitch and roll, and soon nausea overtook us in unmistakable signs, the writer's feet at the same time coming down from the railing while the chair was precipitously allowed the legitimate use of its four legs. About the time a sickly pallor was coming over us twain and a rising movement of things internal was only a question of seconds, a brisk, cheery nurse—who had been seasoned by several trips across the Atlantic—administered the antidote, this being of an active nature, rather than a passive one.

Taking us both by the arm, we were given a number of brisk turns about the boat, the writer keeping his gaze off in the distance, where association of movement could be had. We were both recovering nicely from the first shock of sickness, when my unfortunate friend, who had halted for a moment at the side rail of the boat, received the involuntary dietary outpourings of a brother in misery whom fate had placed just above him on the upper deck. Following this mishap, there was no more sickness on the part of either of us, and in an hour's time we braved seats at the stern of the boat, tilted back against the cabin, and enjoyed the same rolling of the ship that had made us sick before.

Both physiological and psychical elements may be suggested as the two causes of seasickness, and for its prevention the writer herewith suggests an active treatment of a mechanical nature.

Granting that there is a sensitized nervous system as a psychical cause (which is a factor in many phases of life), we will pass on to the physiological aspect.

There is a confusion of the centers of equilibration. The moving vessel causes us to lose our sense of adjustment in our position in space. The phenomenon of habit receives its jolt in the body-function of sustaining this coordination. False visual and muscle messages are sent to the cerebellum for its interpretation. These centers of equilibration at the same time are rendered conscious of disturbances in the semicircular canals from the internal ear. These impressions from the auditory nerve-endings suspend the body-movement's recognition of the three dimensions of space. The vomiting-center participates in this mental confusion of incoordination. Dizziness and the rest of the phenomena of seasickness rapidly follow. The psychic element aids in this precipitation, by the reflex action of the sensitized sympathetic system.

So in locomotor ataxia, with its permanent disturbance of equilibration, we have gastric crisis, with vomiting.

In the prevention of this temporary disturbance, the visual and the labyrinthic messages to the brain must be controlled so as to approach the normal. The writer seeks to do this by actively employing the organs of vision, keeping the eyes open and looking away in the distance, at the horizon where motion is lost. By so doing, he becomes conscious of where the movement is and where it is not. The visual impulses, recognizing the fault, meet the new condition.

The active walking minimizes the muscular and labyrinthic disturbances, through the

brief moment when one foot is on the heaving vessel. The impressions hardly are registered before this foot is lifted and the other takes its place. This momentary approach to earth (the deck) allows the natural return of our sense of adjustment.

To be absolutely in space, would mean only a return of the seasickness when coming into contact with the vessel again. But, as it is, the walking helps us to acquire an immunity while the first shock of our sudden and altered sense of motion wears off and our body has time to adapt itself to new conditions.

H. A. Greenwald.

Kettle Falls, Wash.

MORE ABOUT SCRATCHES IN HORSES

Since the subject of "scratches" has been commented upon by our esteemed Doctor Mayo, it is with some hesitancy that I touch upon the subject. I, too, have an animal affected with this, as I regard it, parasitic disease. I have tried many things, but find that, in addition to the general measures referred to in the August number, a 3-4 to 1-percent ointment of mercuric chloride, thoroughly rubbed into the "crack" on alternate days, gives best results.

The reaction is severe enough to cause some tenderness on the second day, but by the third day this has subsided and the sore is ready for another application. The crusts soon fall off and the lesions heal with a pliable scar.

Recurrence is the rule, but by attacking the lesions when they are small the animal may be kept practically free.

The only objection to its use—and this applies particularly to the solution of the mercuric bichloride—is, that, when allowed to run over the hoof, it causes a dryness and brittleness of the same.

W. W. Kuniz.

Baylis, Ill.

ADHERENT PREPUCE: A SURPRISE

For the benefit of others, and especially the child, and in response to the invitation in Clinical Medicine to write "one practical item," I will give my discovery of an efficient treatment for adherent prepuce.

It has been stated by some authorities, I have been told, that adherent prepuce is the normal condition of the child, as born. I do not believe this, for, if true, it would give trouble more often than it does. Still, it is not infrequently met with, more or less complete. I have pulled off partial adhesion a number of times.

In the case to be related, the prepuce was *completely* adherent to 1-16 of an inch of the meatus, and *all the way around.* It resisted every effort to peel. It caused the child much discomfort and induced a habit of its standing upon its knees, sudden crying-out and disturbance of sleep, and so on. I could find nothing in the textbooks covering the condition for treatment, and so made an appointment, with the intention of dissecting it back with the bistoury.

Before dismissing the mother and child (age 2 years), the thought of forcibly distending the prepuce occurred to me. I filled a strong 4-ounce syringe with water and, holding the prepuce tight about the point of syringe, injected the water, thus ballooning the foreskin. To my pleasant surprise, I found the glans stripped clean of the mucous lining, clear back over the corona—"as clean as an onion." Considerable hardened smegma was liberated. Then I felt surprise that none of the textbooks nor any of my many preceptors had mentioned this simple and efficient cure.

I had intended also to circumcise this child. And right here and now I will say, the corona glandis should never be left to go uncovered by a circumcision.

H. L. Green.

Quincy, Ill.

A PRESCRIPTION FOR EPISTAXIS—AND FOR APHASIA

On page 766 of August Clinical Medicine, Dr. C. C. Matthews gives a prescription for epistaxis, and the editor asks, "Has anyone else anything to suggest?" In my practice of half a century, I have found that fluid extract of ergot will arrest the bleeding in a short time. But here is another use for fluid extract of ergot that may be of interest.

Some twenty years ago, I was called to see a man 72 years of age. He had got up that morning with aphasia. He could answer yes or no, but no more. Supposing there was hyperemia of the speech-center, as described by Broca, I concluded that a few doses of the ergot (30 to 40 drops of the fluid extract every three or four hours) might relieve it, by contracting the arterioles. So, I applied practice to theory. On my return visit the next day, I found my patient's faculty of speech fully restored, and the old man could talk. He said: "Doctor, after I took the third dose of your medicine it appeared as if

a sheet were raised upward from my head—in front of my eyes—when I discovered I could talk as well as ever."

He lived several years after that without a return of the aphasia. Question: Was this a case of vis medicatrix naturæ, or the direct effect of the ergot? Belonging, as I do, to the "old régime," I am inclined to stick to the efficacy of pure drugs, more than to the *illi dixerunt.*

'Rah, for CLINICAL MEDICINE.

L. H. HILL.

Germanton, N. C.

[Was the result obtained an illustration of nice adaptation of the exact remedy needed to correct a definite disordered function—or just luck? Who can answer? On theoretic grounds the Doctor's therapy was all right.

In hemorrhages I hope no one will forget the value of emetine. It is not the only remedy, but it seems to "work" in many instances where other things fail, hence is a good thing to have on hand.—ED.]

BUSINESS TALKS TO BE CONTINUED

Some months ago we began the publication of a series of articles by Mr. A. D. Brush, on "The Keystone of Success—Collections," following with a number of contributions from members of the "family," and incidentally opening up the whole problem of charges and collections for further inquiry.

We are planning now a continuation of this series. In the November issue we shall publish an article giving a resumé of the experience of some of our contributors and embodying some of the best collection letters which have come to our attention. If any reader of CLINICAL MEDICINE wants to get in on this discussion, now is the time to do so. Everyone is invited to take part in it. The subject is one of extraordinary interest, and it is hoped that a question of such vital concern to the doctor's pocketbook will stimulate many of our readers to "sit right down and do it now."

TWENTY-FIVE YEARS OF URINATING THROUGH THE CATHETER

In a lifetime of nearly eighty years, mostly spent among the sick and afflicted, one runs upon things occasionally a little out of the common, as in the case of a man who died in his 81st year, and who during twenty-five years of that period had catheterized himself, never having passed a drop of water normally in all that time. I was intimately acquainted with him and know whereof I speak. This man used the Jaynes catheter, and would have no other, even though in later years, as they are not manufactured or much used in America, he had them imported especially for his use, despite the fact that they cost more than double those he could get here. He had a way of his own invention for heating vaseline to the boiling-point and then passing the catheter through it before introducing. Yet, I do not know of his sterilizing his hands more than with the hot vaseline; still, he was more than an ordinarily clean man. As I have never known a man using a catheter for longer than from three to eight years, it has occurred to me that his case might be worth mentioning.

Here is another story:

A young mother with a small babe had a cancer on the end of her nose, which greatly annoyed her, while by no kind of treatment had she been benefited. At last someone told her to sop the nose with oil of turpentine. This she did often, hoping for a cure, but, instead, both mother and child were suddenly taken ill and died in a few hours, in spite of all that could be done for them. Question: Did the oil of turpentine cause their death?

C. M. H. WRIGHT.

Blaine, Ill.

THE CHIGO OF SPANISH AMERICA

Pulex penetrans, commonly called the "jigger" and "chigger," is a small black flea inhabiting sandy soil in Spanish America. It becomes of medical interest, in that it enters the sole of the foot, preferably about the toes, under the skin, and particularly under the toe-nail. The entry is made, apparently, without giving pain, or at least not noticeably so, to the victim. It is not the same as the little red jigger of the United States, which only attaches itself to the skin, preferably to the softer and thinner parts. Among the Spanish-Americans this little flea is known as "pulga de la pies," but is also called "nigus" by some writers. It abounds, and is a pest, from Mexico southward to the tropic of capricorn.

I was "lucky" enough to get just one in my foot during my visit to Gautemala City. I was told by the natives that this insect abounds particularly where hogs are kept. I made several visits to the hog-market, which, as a matter of fact, is the grounds around and about the Catholic church. The natives

use the churches and the grounds about them for camping-places, water-closets (without the water or the closet, either), selling and buying, and other utility purposes. So, I think, there is where I met the "jigger," and he made friends with my foot.

One night, while in bed, I placed my foot against the "footboard," when I felt a pain of a peculiar hot, throbbing character, not sharp nor much sore; I never had felt just that kind of a combination of sensations in all my life. I told my wife I had a jigger in my foot. Next morning I took a very small scoop-curette from my eye-case of instruments and emptied the cavity of its contents. The latter I put under the microscope, and there were revealed 31 eggs. These were ovoid in shape, both ends the same size, and looked like lizard's eggs.

I filled the cavity in the foot with carbolic acid, put on my sock and shoe, walked all day, and never felt it again. This constitutes the treatment. The natives pick out the nest, and apply nothing to the pocket; in fact, the wound is comparatively harmless. If the eggs are not removed in due time, however, the leg gets knotty to the knee and gives some trouble.

I wish to state that I received many letters from the readers of CLINICAL MEDICINE asking about locations and many other things in regard to the country. It was impossible for me to answer them from lack of time and also on account of my inability to convey to the writers a pen-picture that would give them what they desired. Anyone who has a fascination for the American tropics and has never seen them, had better go and look for himself. I trust no one will think he was ignored for possible other reasons.

T. H. STANDLEE.

Edgewood, Texas.

DISEASE GERMS AS INSTRUMENTS OF WAR

CLINICAL MEDICINE always, at least ever since I have known it, has stood for the right in everything, and especially in things of vital interest to the medical profession. Now, there is one matter, of importance to us all, that I am sure should receive some attention in the journal.

I have just read an editorial in *The Louisville Courier-Journal*, to the effect that a Mr. Steinmetz of the General Electric Company, Dr. W. H. Park, director of municipal laboratories, New York, and Dr. Charles Norris, with Dr. Cyrus Field of Bellevue, are advocating the use of airships and other engines of war to spread the organisms causing dysentery and the bubonic plague among the men of an opposing army.

Mr. Steinmetz is a layman and should be looked after by the lay press; but these other gentlemen are within the ranks of the noblest profession on earth, and this profession should have something to say to them as to what it stands for.

When did the medical man change his role as a humanitarian for that of a heinous, horrible, nauseating monster, bent upon spreading pestilence and suffering and death? Science already has lent itself altogether too much to works of destruction—a sad fact proving that man is not yet fit to handle the secrets he has wrested from nature. Better had these men remained totally ignorant of the hidden forces of bacterial life, if this knowledge so overbalances their equilibrium as to turn it against humanity.

The fruits of a tree determine its fitness to live, and, if the medical profession is to lend itself to this twentieth-century nightmare, it had better perish off the face of the earth quickly ere all its boasted triumphs are turned to hellish curses.

Men whose lives have been spent perfecting ghastly monsters of destruction are now building their monument of putrid human flesh that cries to heaven; and it is hoped they will be pointed to with the deepest loathing by the generations to come. Jack-the-Ripper seems angelic compared with those men dishonoring their guild who would use in war forces giving no one—nor man, nor woman, nor child—even a chance for life.

Medical men have stood as a unit in bending all their energies to the discovery of ways and means of staying the hand of death and alleviating suffering. I should say now that the medical profession had better heed the handwriting on the wall if it wishes to maintain its sacred creed and prevent its noble emblem from becoming a mere farce, a gewgaw, a despicable byword.

Knowledge, as everything else in nature, is a two-edged sword, and any man who cannot, in thought, put himself in another's shoes is not fit to hold the powers of life and death in his hands.

I have heard it said that in this country money is the Moloch to whom we sacrifice. We toss children, virginity, the strength of youth into its maw; yet, this monster is never satisfied. And now it makes a bid for our beloved profession, which has robbed even the ghastly battlefield of some of its horrors

I am but one doctor in a small Indiana town, but I sincerely hope that my voice will be heard. I am sure that the vastly greatest proportion of my brethren feel as I do about this matter, if they have not already spoken.

There is high-tension madness in the air, and it will be well for us to keep ourselves properly insulated.

LEON E. WHETSELL.

Bloomington, Ind.

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[We print Doctor Whetsell's letter mainly, because we wish to reassure him and such other of our readers as may have been influenced by articles like that printed in *The Courier-Journal*. The article itself we have not seen and do not know just how much inhumanity was charged up against Steinmetz, Park, Norris, and Field; but we do know Doctor Park personally, and, knowing him, can say without hesitation that the editorial quoted is a tissue of absurdities, no doubt based upon a distortion of something these gentlemen actually said. It cannot be credited that they would endorse such an awful method of warfare as that suggested. The nation undertaking it would be branded forever with the loathing and hatred of the world.

However, we agree with Doctor Whetsell that "there is high-tension madness in the air"; therefore, it behooves us all, whatever our racial affiliations and sympathies, when considering the war, to think temperately, and to speak calmly, without rancor and without prejudice; remembering that there still is abiding in the world a brotherhood of mankind more precious and more enduring than that of blood or nation, and *this* should be cultivated. No people engaged in it have a monopoly of either the good or the evil; none of the armies is composed exclusively of devils or angels; and after this great war is over, we shall all have to live together in this same little world. For that happier time, let us all strive to keep burning the flickering flame of brotherly love, working to this end *right now*.—ED.]

CURRENT COMMENT BY A COUNTRY DOCTOR

The Practitioner as a Pharmacist.—Whether or not it is to the advantage of the physician to dispense his own remedies, will not here be treated of. This question must be decided by the individual practitioner according to personal convenience and economic environment.

Personally, the writer would prefer merely to write prescriptions, handling only emergency necessities; however, his own convenience as well as that of his clientele requires just the opposite: he is the only available source of drug supply, and his methods in this respect are in no way modified by the fact of his being a duly registered pharmacist, unless it be that he possesses a strong realization that the pharmacist is worthy of his hire.

Probably no error is a greater one on the part of the physician than to suppose that the pharmaceutical end of his business is a mere necessary side-line. This feeling results in his wrapping up medicine in a piece of newspaper, in failing to record properly what is given to a patient, not only in observance of the antinarcotic law, but for one's own convenience and completeness of record. This feeling leads to the habit of washing out a dirty bottle before the patient, slopping in a guessed portion of medicinal agents, and improvising a menstruum—often from the water-bucket. One of the late Bill Nye's stories treated of the unforgiveable sin of pouring water into the populace's whisky after the supply had gotten low because of a snowstorm; Wyoming's crude and frontier-environed proletariat could stand everything but this.

Of a truth, the water-bucket proposition is not a joke. Old Bill Z. knows nothing of the expense of a minute quantity of an alkaloid; neither original outlay nor expense of having your money thus tied up in a colored-water and an airtight container—not to mention the cost of the knowledge of how to dispense it. But, Bill is thoroughly "wise to" that water-bucket. In fact, Bill raised the genuine circulating medium and went to town to a distinguished specialist to have his wife's sister treated for increased ocular tension, and she received the same medicine at a first-class pharmacy. It was put up secundum artem and properly clothed, incidentally worth the price. Yours was worth the same amount, *but*, you just put in a tablet (weight correct and alkaloidal salt pure), then you proceeded to the water-bucket and afterward put in and shook up an approximation of boric acid (having let your bottle of saturated solution of H_3Bo_3 run empty), thus making a well-indicated "eyewater." The label was a bit off in appearance and the directions were carelessly written. That is the kind of prescription that "doc" put up; it was poorly dressed all around and could not compare with the

"collyrium" the city doctor gave a recipe for. The difference was in clothes; the collyrium was properly arrayed; but the eyewater was not.

Both these preparations may have been of equal efficiency, but the eyewater lacked something: it was short the psychological touch that gave it, besides enhanced therapeutic excellence, a marketable value, instead of being a dead expense to the prescriber. The inherent difference was not in the prescribers; both had the same ability derived from the same sources. The difference was not in brain-power of the physicians; both knew that eserine and pilocarpine were their main myotic aids, and balanced the two before making selection; but the bottle of medicine reached the patient better dressed. Probably there was some difference also in the toilet care of the men themselves. Anyway, "doc" went to the water-bucket in his shirt-sleeves, and later howled because he did not get what his services were worth. If a practitioner has been furnishing his remedies without charge, or even if he has not been charging enough for them, now is the very time to correct this expensive error. It is very easy to explain that the rise in the cost of drugs requires changing the system. A little good judgment in this matter will add to the income materially—*add to it by stopping an entirely uncalled-for business leakage.*

Dispensing-Hints.—In dispensing drugs, the most convenient as well as *accurate* way is, to use the active principles or concentrates where available—and, in this day of therapeutic and pharmaceutical progress, such can be obtained to an extent that in the writer's practice largely does away with the older fluid preparations. However, pending further advance, investigation and confirmation of certain empirically proven whole drugs, such still have their field.

Using the tablet system enables one to gauge accurately the dosage without the necessity either of weighing or measuring the potent elements of the prescription, and leaves the prescriber to select a suitable menstruum without further calculation, where the tablets are not given in such form. It is seldom necessary to go to the expense of using high-priced elixirs, although there are cases in which, because of delicacy of the stomach or for other reason, a ready-mixed pepsin or other vehicle is both desirable and convenient. As a rule, the menstruum is simply an agent to dissolve and preserve the drug and to regulate dosage; the only other requirement is, to give a pleasant flavoring where taste is objectionable.

In most instances, water, glycerin, syrup, and alcohol are all that is required for making a solution or suspension. A very small amount of alcohol, this being ordinarily the best preservative and solvent at hand, as a rule suffices, unless climatic conditions are unusual. Use as little alcohol as possible; by adding glycerin its use often can be minimized. Add to this list caromel, cudbear, and flavoring, together with the acids required to aid solvency of quinine salts, and the ingredients are at hand for most extemporaneous prescriptions. Often solution of tablets in water alone is sufficient when the medicine is for immediate consumption. Coloring and flavoring tablets are for sale by drug houses, thus further simplifying the prescribing, if one so desires. The main thing, aside from the ever necessary caution against incompatibles, is knowledge of the solvency of the agent or agents used. Some little reminder like "Merck's Manual" (sent, I think, for the asking) is very helpful for instant reference in the matters of solvency and compatibility.

A little point to be remembered is about the usefulness of saccharin, 550 times sweeter than sugar, especially when carbohydrate intake is objectionable.

In dispensing tablets in form, it should be remembered that, although not quite as quickly soluble, the coated tablet is better protected against deliquescense—a matter of importance in damp climates or seasons. Often it will be both a better protection as well as an improvement in the appearance of the prescription if dispensing is done in homeopathic vials instead of in pill-boxes.

Solutions often used and permanent, such as of boric acid, sulphate of magnesium, and the ordinary lime-water always should be kept in stock, ready-made. If it is desired, as it often is by this writer, to prescribe external applications of sulphate of magnesium solution, better results will usually be obtained by dispensing the solution already prepared and colored. Patients who would not use faithfully a solution prepared by themselves, by putting "a handful of salts in a bowl of hot water," will use the madeup and properly dispensed solution.

Have a bottle of improvised weak elixir, mostly water, ever at hand; it can be modified as needed, and will save going to that water-bucket.

Be especially careful about the baby's medicine. A little more trouble will make a

palatable mixture of almost anything. The patent-medicine guild know this well. Please the baby with its medicine, and the child can be handled better: Johnny and his mother will both appreciate this.

Little Things About the Baby.—When it is necessary to take the child from the mother's breast, maintaining the milk supply, to prevent inopportune and compulsory weaning, is not to be forgotten. Care for the general health during the trying ordeal of caring for a sick child and use of the breast-pump is the least that can be done. Better, if possible, have her borrow a neighbor's child—being sure that the neighbor lady and child are infection-free, and that the borrowed child is not overfed. There often are cases where this aids in weaning a baby, and sometimes it is an aid to a sick mother compelled to wean a child. The doctor does well to be mindful of all these possibilities. They are little things that help.

After those bad cases of dysentery we have had so many of this year, there often follows constipation. Here, liquid paraffin comes in most excellently. It seems to fill a place long vacant in the writer's practice. This agent, together with an occasional glycerin suppository, often will work surprises in efficacy.

While attending a baby during illness, one often can inculcate ideas as to its care that will be perpetuated when the child is well. Among these, are necessity of regular habits of feeding and, with a certain class, the advantages to be secured from regular bathing as an aid in maintaining health.

Convalescence from disorders of the alvine tract, with its accompanying disturbance of gastric, intestinal, and hepatic secretions, often is aided by the use of brucine and hydrastine. The writer uses these at the stage of gradual resumption of normal diet, whether it be milk feeding or other diet in the older child; he is convinced that hese agents aid wonderfully in bringing the child to "tone" quickly.

There is a tendency, in treating infants, to resort to overmedication; on the other hand, the reverse often is true. The writer believes that, while hard pushing of such remedies as emetine and the sulphocarbolates as well as of other agents in emergency, is imperative, the more passive states of disease should be met by the indicated remedy regularly exhibited in small dosage. Aconitine, perhaps the oftenest used child's remedy, can be pushed hard (fortunately it is quickly eliminated), without cumulative action, and gives plain indications of effect produced. In the writer's practice, there is no room for the slower and less directly acting coal-tar synthetics in treating children; seldom with adults.

A. L. Nourse.

Sawyerville, Ala.

A NOTE ON THE TESTING OF DISINFECTANTS

In view of the fact that the International Committee on the Standardization of Disinfectants, appointed at the last meeting of the International Congress on Applied Chemistry, cannot meet this year, owing to the war, and that this may entail a further delay of three years, we desire to call attention to one or two points which have arisen since the publication of our paper on "Approved Technic of the Rideal-Walker Test," and to submit the following suggestions as addenda to the paper referred to.

First, in view of the difficulty experienced by some workers not familiar with the technique of the chemical laboratory, we suggest that a burette, such as that described by Hermann W. Mahr, of the Board of Estimate and Apportionment, New York, can be adopted in place of the dropping-pipette. On the other hand, we know many workers who have a decided preference for the dropping-pipette originally used by ourselves and who do not see the necessity for changing this detail of the technic.

The second suggestion deals with the well-known variations in resistance offered by the standard broth-culture of the bacillus typhosus. To obtain the desired result in the phenol column—life in 2 1-2 minutes and in 5 minutes, and no life thereafter—dilutions ranging anywhere between 1 in 80 and 1 in 140 may be required. We feel that this range is too great and suggest, therefore, that the culture be rejected if it calls for a phenol dilution higher than 1 in 110 or lower than 1 in 90. Where the culture becomes so attenuated as to call for dilutions higher than 1 in 110, it can be strengthened by passage through any suitable animal. By restricting this range in dilution, the only rational objection to the Rideal-Walker test is at once removed.

A new difficulty has been introduced through the war; it is impossible now to obtain supplies of Witte's standard peptone. We understand that this matter has been taken up by an American committee, representing four prominent laboratories, with

Doctor Conn as umpire, and that this committee is about to report in favor of a brand which is said to be equal to Witte's in every respect. In the meantime, it would be interesting to have the views of other workers. We, therefore, invite discussion on this point.

SAMUEL RIDEAL.

London.

J. T. ARNOLD WALKER.

New York.

TREATMENT FOR INGROWING TOE-NAIL

Ingrowing nail is a condition induced, not by the nail growing into the flesh, but by the toe being so compressed as to force the soft tissue against the hard edge of the nail and producing the appearance of ingrowing, as also the soreness. The first thing to do is, to get ready for the treatment. The toe must be thoroughly washed with an antiseptic soap and warm water, then, without giving unnecessary pain, all hard cuticle and any rough edge trim off.

If there is great inflammation and exuberant granulation, apply the ethyl-chloride spray and freeze the tissues, then cut and scrape them away before they are thawed out. Now apply two or three drops of pure lysol, and over all place a large thick covering of antiphlogistine, enveloping the end of the toe and extending clear to the first joint.

The lysol will coagulate the albumin in the tissues and, as the refrigeration passes, the terminal nerves will have had a local anesthetic, so that there will be little or no pain to follow. The antiphlogistine is hygroscopic and, as it removes the swelling and also the heat, the kaolin paste becomes baked and serves as a splint and a fine protection to the toe. This acts like the old-time gluecots—formerly in fashion for the boys in the lumber-camps when they had hurt their fingers. Repeat these dressings every twelve hours, till the soreness and swelling have quite subsided. This will be in a few days, and your patient will be delighted.

Now comes the real treatment. Cut two strips of adhesive plaster 1 3-4 inches long and 1-8 of an inch wide. Attach one end of a strip of the plaster to the outer side of the toe, near the edge of the nail, over the sorest part. See that it is stuck tight and fast, then press the flesh away from the nail with the free hand. Make good, strong traction on the strip of plaster, drawing the flesh away from the nail's edge, then, by a downward spiral motion, draw the plaster taut beneath the toe and bring the other end up on the opposite side and fasten on top of the toe, back of the first joint. In like manner treat the opposite side, reversing the spiral and crossing the plaster under the toe. You now have a splint that will not slip, and it draws the soft parts away from the nail.

Now cut a bunion-plaster in such a way as to leave a U or horseshoe-shape, moisten it and apply to the top of the toe—the circular part below the matrix of the nail, one of the arms (or corks) is to come up the middle of the nail, the other to be carried out on the outside where the plaster is attached. Dust the toe with boric acid, then tell the patient to put on his stocking and shoe.

This dressing should be removed and renewed every three or four days. When a nail is entirely removed, it requires just thirteen weeks to grow a new one. Treated in my way, you have to wait only till the edge of the nail can grow out to the normal size, which will be far less than thirteen weeks. But the glee and satisfaction of the patient at this excape from pain and lameness will not deter him from waiting, but he will gladly accept the delay. A man's toe-nails were made to stay with him, and not to be cut out. Many are made permanently lame by injudicious cutting.

C. S. COPE.

Detroit, Mich.

THE PHYSICIAN WHO DRINKS: A COMPARISON

Who has not heard it said of the physician who drinks, "He is a good physician, if he'd let drink alone"?

Good physicians who do not drink become tired of hearing their drinking rivals praised, when as much, and more, credit is due those who never touch booze. Of course, no offense is meant to the sober physician. It is simply thoughtlessness on the part of the public when they make such remarks. But no sober physician likes to hear that remark. It really gives the drinking physician too much credit—more, many times, than he deserves. This remark tends to eulogize the drinking man and forget the merits of sober, competent physicians.

Sober physicians do not want to become drinking men, in order to have it said of them, "He is a good physician, if he'd let booze alone." They'd rather have it said of themselves: "He is a good physician, because he lets drink alone; he never touches it, he is a total abstainer, and that's why

we patronize him." No, indeed, the fact that one physician drinks does not necessarily rank him above sober physicians.

In fact, when you take into consideration the positive, known evil effects of liquor on the nervous system, yes, on the entire human anatomy (which every child who has studied physiology has learned), they should be rated below, and not above, par. In calling a physician, you do not say, "Call Doctor Jones, he is a good physician, for he drinks." No, no, you want the doctor who never touches it, a man who, you know, is sober every time, everywhere.

"KIRK."

A DOCTOR'S TRIBUTE TO HIS DEAD WIFE

On the 17th of July, in the hospital conducted by the United Fruit Companies at Tela, Spanish Honduras, my wife died of chronic interstitial nephritis, complicated by cardiac and vascular disorders, and, although she had all the care that real human kindness and sympathy from doctors and nurse can bring forth, nothing that Doctor Conner and the nurse, Miss Cotter, could do, was of avail, and death came to claim its own.

Most of you remember Mrs. Hollmann, my partner, and, as Doctor Elliott put it, *"a real doctor's wife";* some of your readers knew her personally, even, and they all were of the opinion that it was good fortune to have known her.

When we were married, she felt pride in becoming a doctor's wife and gloried in being accorded the grand opportunities this position offered for doing good. She began immediately to fit herself to help me intelligently, and novels and magazines had to make way for medical literature and journals; and even the illustrated fashion periodicals, so dear to woman's heart, were thrown aside upon the monthly arrival of her favorite among them all, THE AMERICAN JOURNAL OF CLINICAL MEDICINE. How she did long to meet you, Brother Abbott, and you, Doctor Burdick, and you, Doctor Waugh!

It did not take long for the patients to find out that hope and consolation were to be found at all hours at the doctor's office, even during his absence. And her sympathy and kindness was deeply appreciated by the simple-minded folk; even the Indians, Huasticas, and Mexicans, supposedly ungrateful, divested themselves of their innate stoicism and vied with each other to serve her. The worship of these simple, untutored Indians was something wonderful.

Her creed, as she explained it to me, was something like this: "Never undertake to treat even the poorest, unless you are resolved to give him the very best you can; if it be only a dog you operate upon, do not be careless with your instruments, because it is merely a dog. If you give some surgical service, do not fail to take all the pains in antisepsis and asepsis, exercising the same care you would when treating your very-best-paying patient or dearest friend. It is far more honest not to undertake a case than to give slovenly service."

And the sick and the poor, yes, and the dogs, too, everybody and everything loved her, and many times, hiding her own great suffering under a smile, her sympathy would alleviate the sufferings of others. She never would acknowledge sickness or pain when she thought someone else needed her services or sympathy.

And, oh! How she suffered!

And, then, many and many a time we would go without eating, because she had given what little food there was to starving women and children who needed it more. Driven from place to place, all she asked for herself was a home. A home, woman's supreme right—a home. And a home was denied her. Her yearning for a home was something tragically pathetic, and, yet, after all the good she did, she had to die an exile, with the cry of "Home" on her lips.

How many American women do I see who have to go "home" at least once a year, spending three hundred, four hundred dollars on such a trip, although their husbands are mere wage-earners and poor men. And the worst of it is, that such a husband, returning from his day's work, finds his home empty, and his heart fills with bitterness and coldness, till at last his desolation drives him to seek consolation in the dirty hovels of the halfbreeds or to drown his anguish in the bottle. And then, to crown this mischief, often such a wife, who herself is to blame, seeks divorce from a drunkard-husband and leaves him stranded and a wreck. Many unmarked graves of the tropics are filled by these hapless wrecks.

When during the revolution I tried to get my wife to go to the Battle Creek Sanitarium, as she already was suffering, she exclaimed indignantly: "What, I go to the States and leave you to face these hardships and dangers alone? My place is by your side, and here I stay, with you."

And poverty and misery and starvation even were not strong enough to make her leave me, and through it all she found time and opportunity to help others; for, making light of her own anguish, she always was filled with the thought that others were enduring a still worse fate. One time she walked with me over a rough mountain-trail, twenty-five miles on foot. As only capital, I had in my pocket thirty-seven cents, and I was downhearted. Yet, tired, hungry, and sick, she tried to lift up my falling spirits, forgetting her own suffering. In Umakan, she reduced our rations to beans and tortillas, the cornmeal pancakes of the common people, so that she might give two dollars a day to the hungry people who were starving on account of the revolution.

Such was Mrs. Hollmann, my wife.

And I, alone in the world, old, with no prospects or ambition for the future without her, still have resolved to honor her memory by finishing my day by living a clean, straight life, so that when the day comes that Death reunites us I shall have no need to feel shamed on meeting her.

Such is the influence of a really good woman.

A. R. Hollmann.

Tela, Spanish Honduras.

[A beautiful, beautiful tribute, coming from the bleeding heart of a stricken man. The sympathy of every reader of this journal will go out to him in his lonely exile. Doctor Hollmann is one of the many once prosperous men whose homes have been broken up and lives ruined in unhappy, turbulent Mexico. Multiply his suffering ten-thousand fold and you have not then begun to measure the extent of the distress of her people.—Ed.]

OUR DEPARTMENT OF EXTENSION

Last month we published the first of a series of short articles intended for distribution by physicians among the laity, the purpose being to provide dependable information concerning matters of general medical interest.

It is believed that if physicians, themselves, place this information in the hands of their patients it will prevent many from falling into the hands of quacks, while strengthening the bond between doctor and patient. Great good may be accomplished in this way.

In order to facilitate this educational work we shall be glad to furnish reprints of these little articles at cost, although every reader of the journal may reproduce them himself if he so desires. Our single purpose is to be of service to the profession and, through it, to the many millions of people which it serves.

The following article is No. 2 in the series:

SIMPLE RULES OF HYGIENE FOR THE EXPECTANT MOTHER

The expectant mother can always extract comfort out of the recollection that countless others before her have experienced motherhood and that, during past generations, the frame and make-up of woman have become wonderfully adapted to this process of childbirth. The little child has likewise become so shaped and constructed that its birth causes the minimum of danger to the mother. Childbirth is a natural event and both mother and child are by nature prepared for it.

The young mother should at all times remember that natural living is the best preparation for natural childbirth. She should always think of this when anxious friends recommend this fad or that. Common sense should teach her that she ought not to starve herself or live on any rigidly restricted diet. Any practice or diet that is unreasonable for a woman before pregnancy is unreasonable for her during pregnancy. The socalled theory of maternal impressions is a superstition and entitled to no belief whatever.

A cheerful mood is more easily obtained if one goes about the usual daily routine of living just as though nothing were going to happen. Moderate exercise, light work, a few social duties—these tend to prevent morbidness and hence are helpful.

The daily baths should ordinarily be in some degree near body temperature. If any variation is made in either direction, the physician's approval should first be obtained. The bathroom should be comfortably warm, otherwise the baths had best be administered from a bowl in some other and warmer room. Ordinarily the baths should be taken either upon rising in the morning, after a nap in the afternoon, or upon retiring at night. Which of these is better in the individual case should be decided by the physician.

The expectant mother should take exercise in her customary way, and to her usual extent, provided that no violent exercise, such as jumping, jolting or straining, is permissible. A daily walk into the open air does much toward keeping one in a cheerful frame of mind. Routine household duties are usually helpful, except in an overworked person.

The diet should be generous and varied. Whatever the patient wants, she should eat, provided that strange and unusual articles of diet had best be withheld until the physician can decide what is best in the given case. The expectant mother should try to eat some fresh vegetables, fresh meat, and fresh fruit each day. Canned goods should be left out of the menu. A glass of water at mealtime is always permissible, but other beverages should only be taken as recommended by the physician.

Clothing should not be worn tight about the waist. If any corset is worn, the physician should decide if it is the right kind; usually a proper corset can be worn up to the middle months of pregnancy, but it should of course be worn loosely.

During pregnancy the ordinary sex relations should be discontinued. The husband should be more than usually tactful and patient, as it is generally conceded the wife has a right to be somewhat capricious during this time. A woman com-

panion, especially if it be her mother, is often of great help to the expectant mother. At the same time, a companion could do harm, if she were officious or given to repeating stories of past labors she had witnessed or heard about.

Besides the foregoing general suggestions, there are certain special precautions that had best be observed in advance. For example, a specimen of the urine should be sent to the physician for examination, once a month during the earlier months, and oftener during the last two months of pregnancy. An occasional visit to the physician's office tends to clear up doubtful points and is well worth the while.

If the nipples seem tender, this fact shou'd be reported to the physician so that if he thinks it needed he can prescribe some treatment to harden the nipples before the baby's arrival.

To forecast the probable date of labor, count back three months from the date of last menstruation and add seven days. This will give approximately the month and day upon which the birth will occur. A certain variation from the expected time should give no surprise.

The young mother-to-be must beware of the various fraudulent advertisements of patent medicines which claim to make childbirth easy. Childbirth is made easy by a following of the rules mentioned above, not by using patent medicines. In spite of alarming stories told by old ladies and in spite of claims of patented nostrums, the young mother who goes cheerfully about her duty, firm in the faith that she can accomplish her high mission, will soon find herself a successful and happy mother of a pretty and healthy baby.

ON THE FIRING LINE

A story of one day's work in the trenches will give one a good idea of the terrible struggle with which we are connected. Take some day of the last of June as a sample.

At 10 o'clock one evening, the airmen reported a number of Prussians concentrating at a certain point on the line, and that the artillery-fire had been severe for an hour or two before along that portion of the trenches. Word was sent to the receiving hospital to make ready, as there might be a number of patients early in the morning. Report came that only two surgeons were available. Word was sent to the base hospital to send up five doctors, and with that I retired.

At 2 o'clock in the morning, the telephone announced that very heavy firing was going on along the trenches. Two columns had charged, one had been driven back, and the other was still fighting. An hour later, another telephone message announced that both charges had been repulsed and an unusual number of wounded were coming in.

After breakfast, at 5 o'clock, I went over to this receiving hospital. Everybody was very busy. All the surgeons were occupied. The wounded were still coming in, mostly on stretchers. Those able to walk had been received and were lying around on the ground, waiting for attention. The charge had been unusually severe and was broken up by the machine-guns, which had wounded a large number of the enemy, preventing them from running away. Between 20 and 30 prisoners, some wounded, were interned near the hospital, waiting to be taken to the rear. The wounded Germans brought in were laid by themselves. Each one of our wounded soldiers was examined superficially and the question of his ever coming back to service was settled. A blue tag tied to his coat signified an early recovery. A red tag was attached to the garments of those more seriously wounded who were not likely to be able to go into service again.

Operations were going on on two tables; arteries were tied, fragments of bones were removed, lacerated wounds were sewed, and the general aid for transmission to the base hospital was given. A line of autos was in service, each taking 3 or 4 men at a time, back some four miles to the base hospital, where they were examined again, and, when it was possible, put into an ambulance-train and sent farther back.

The morning was clear and cool and the kitchen-camps were in full activity furnishing soups and coffees to all who came. The wounded continued to stream in until about 8 o'clock, when the field-surgeon declared that everyone out of the danger zone had been cared for.

Several died from wounds and their bodies were carried off to one side to be made ready for burial. Others unable to be carried to the rear were placed in the best possible condition and were visited by nurses at short intervals. The rest were sent to the rear as rapidly as possible, and by 10 o'clock German prisoners were all escorted out of sight and the wounded of both armies were grouped and disposed of.

The surgeons then had a chance to rest. Some had been on duty all night, and they went to bed. The attendants were around, cleaning up and arranging for another day's work. The heavy, dull roar of artillery-fire along the trenches was continuous, and now and then we could see, at a little distance, stragglers from the trenches coming back or moving around. Autos were coming and going and squads of soldiers were moving from place to place. In the hospital-office, the clerks were making records writing papers and answering 'phone calls. After dinner, I went some 10 miles further down the line, stopping at the various receiving hospitals, hearing reports, and signing papers.

At one place, a charge had been made at about daylight, but a machine-gun had been placed in position and the charge was quickly repulsed. Only a small number of wounded came in at that station. At another hospital, an ammunition-wagon had exploded and a dozen or more men were more or less wounded. All had been sent to the rear. Men were repairing roads, building bridges across ditches, and abandoned trenches were made into burial grounds for the dead in the vicinity. At one place, a number of dead from both lines, who had lain on the ground twenty-four hours or more, were dragged to the trenches and covered up. Sometimes marks were put up, but usually not.

The trees were shattered in the vicinity, fences were broken, and what had been farms and stables were in all sorts of ruined conditions. A spring, the water of which was used at a certain receiving hospital, was found to contain very suspicious-looking water, so, the hospital was removed a half mile away where the water supply was better. On my return, I called at the various hospitals and inspected them, to see whether they were ready for a sudden emergency.

Finally I arrived at headquarters at 6 o'clock. Here, 'phone messages were received and answered, concerning persons wounded and what disposition was to be made of them. These were 'phoned back to the hospitals to which they were supposed to have been taken, and answers from them were received. Doctors who were indisposed 'phoned for permission to go back to the rear, and the question became as to who would take their places.

With these little details attended to, and listening to the speculations of the commanding officer as to whether there would, probably, be a charge at this or that point, besides the reports from the airmen, constituted my day's work, and at 10 o'clock the lights were out and the sullen roar of cannons at long distances furnished a lullaby for the night.

My duty requires inspection and a visit to about 20 hospitals over a range of 60 miles. Sometimes these are concentrated and at other times they are spread out, depending upon the action of the troops at the front. I am supposed to provide for every possible emergency in the sudden care of a large number of wounded, by nurses, surgeons, dressers, and automobiles.

The base hospitals have less strenuous work because they can anticipate and be provided for emergencies. With us, there may be a sudden change of the disposition of the enemy in front or a sudden hurling mass of men break the line at certain points, but even this does not amount to much, although quite a large number of wounded may come in from a charge of this kind. A countercharge on the flank destroys the advantage which the enemy is supposed to have gained, so, it really becomes a sort of useless wearing out and striking back and forth without making very much real progress.

Both the officers and the men have a feeling of discouragement at the little that is accomplished by lying in the trenches, mounting big guns and planting machine-guns in position. Sometimes several days will go by and the receiving hospitals are practically deserted, not more than three or four persons applying for help. Then this will be followed by a sudden break, in which both sides make furious charges and countercharges, and then retire.

Evidently the enemy is not showing the same recklessness as formerly. Their charges are weaker and are more easily repulsed. One can have no idea what a narrow field we people on the front live in. Occasionally newspapers come in, bringing desultory news, but the progress of the war and events outside are largely unknown. All branches of the service are heartily disgusted with the dull monotony of trench-service.

Occasionally some official will come to the front, to secure the body of some member of his family, and this produces a little variation, particularly if the body has been buried in the firing-zone, where the risk of being shot adds excitement to the occasion.

So the days go by with intense longings for the end.

"Briton."

HISTORY OF THE WAR BETWEEN THE NATIONAL ASSOCIATION OF RETAIL YARB-GATHERERS AND MIXERS AND THE MEDI-CUSSES

The Association of Retail Yarb-Gatherers and Mixers has proposed a law designed to make it a crime for the Medi-cusses to administer the yarbs that they wish their patients to take. It's a case of "sour grapes" with the Yarb Gatherers and Mixers. History shows that for years these people have exploited the Medi-cusses with great profit to themselves and great financial loss to the Medi-cusses. And now that the worm has turned the Yarb Gatherers and Mixers purpose to make it "agin" the law for worms to

travel in any direction other than the straight and narrow path to the Yarb Gatherers' shop.

If there is anything in the theory of evolution, it is only reasonable to suppose that the medical worm has grown in knowledge and perception to the extent that his foresight is now only a little less keen than his hindsight. And taking aim over his hindsight, what does Sir Wormicus Medicus see? Away back yonder in the Stone Age of medicine, his great-great-grandfather Medicuss gathered yarbs and boiled them down into a sort of Irish stew with which to drench the natives; while a little later his grandfather Medi-cuss had improved the stew by straining it and his method by giving only one pint at a dose, so that his fame spread far and wide; thereby increasing his practice to such an extent that he had no time to gather yarbs and stew his own medicines. Inasmuch as necessity is the mother of invention, grandfather Medi-cuss thereupon conceived the brilliant plan of instructing some youngster in the art of gathering yarbs and making decoctions. This plan proved so successful that other Medi-cusses followed in his footsteps, and it was not long before the fad spread all over the cave country.

But, in the course of human events, it is only natural to suppose that the Yarb Gatherers and Mixers would evolute a little on their own account. They had seen that the Medi-cusses were making more money and presenting a niftier appearance since they had shifted the labor and dirty work on to the Yarb Gatherers; so, they passed the secret word that there would be a meeting of the National Yarb Gatherers and Mixers Association in a secret cave, to devise ways and means for putting the kibosh on the Medicusses.

The meeting was called to order by Toxaphore J. Encephalon, who introduced as the principal speaker of the evening Mr. Osteoid Caput Cerebellum. This gentleman said, among other things, that the Medi-cusses were putting it over the Yarb Mixers by letting them do the dirty work for small pay, while the Medi-cusses themselves were putting on airs and making all kinds of money. He then offered a resolution, which was unanimously carried, to the effect that the National Yarb Gatherers and Mixers Association devise plans and methods calculated to aid its members to make more money. He declared they must "get" the Medicusses by stealthy and surreptitious means, while at the same time openly swearing undying affection and respect for said Medicusses, in order that they might not suspect what was coming to them until this Association was powerful enough financially to put the final K-O punch to the latters' plexus.

Thereupon diverse and various plans were suggested to this end, but the following was finally adopted, with the understanding that the Yarb Mixers could add any new clause they saw fit for the good of the order and for the undoing of the Medi-cusses. And this is what they resolved to do, to wit:

First: To quit working for the Medi-cusses and to open up yarb-mixing shops of their own.

Second: To induce the Medi-cusses to send their patients to them with a recipe for yarbs and directions how to mix them; also, how the brew should be taken.

Third: To use these receipts for their own gain, by practicing physic on the sly, and letting it be known that they had on file all of the favorite receipts of the Medi-cusses and would mix them with great cheer for any of the natives that so desired, thereby saving said afflicted native the expense of consulting a Medi-cuss.

They made friends with the natives by patting them on the back and giving them once in a while a drink of strong mixture concocted for that purpose, and which acted to make any man so brave that forthwith he would hie him home and proceed to sass his mother-in-law. Any time a Medi-cuss would get inquisitive and wonder where his business was going to, these sly yarb gatherers would beguile him to drink an ewerful of this mixture, when for the next several days the Medi-cuss wouldn't want any business whatsoever; and soon this potion got to be one of the Yarb Mixer's most widely known and popular drenches.

Now, like the Medi-cusses before them, the Yarb Mixers began to feel their oats and put on airs and began to wear fine raiment. At the same time the Medi-cusses were getting poorer and poorer; nor were they astute enough to discover the cause of their sad undoing. The Yarb Mixers were becoming money-mad, and were continually holding meetings for confabs, but no longer in secret, to devise ways and means for making even more money. At length old Toxaphore J. Encephalon, B. S., who had accumulated great store of gold and had set his heart on retiring from business, agreed to make known the secret of his success, provided they (the Yarb Gatherers and Mixers) would swear upon a stack of cactus never to give it away to the hated Medi-cusses; for, he feared that

some of them might get peeved and cut out his gall, and for this charge him a large fee, as they now were resorting to cutting people, in order to earn a little money to enable them to live.

The members of the Association being duly sworn, old Toxaphore spake:

"Gents, the secret that I am about to slip you is this: Whereas the gathering of yarbs and stewing them is hard work and is becoming more and more expensive, I bethought me of a fine scheme to save work and make more money. A long time ago I departed from the directions given us by the Medi-cusses for making decoctions; for, whereas, their law requires one quintal of yarbs to one cauldron of water, I would put but a pinch of yarbs into a cauldron of water, thereby greatly adding to my profits. Also when a Medi-cuss sends me a receipt calling for costly yarbs, I put in yarbs that are cheaper. But, I warn you to be on your guard, lest the Medi-cusses discover your little trick and, mayhap, mix his own yarbs, as he did in the past."

Old Toxaphore sat down amid deafening roars of applause, and, for giving this great Trade Secret to the Association, they conferred upon him the talisman of the Golden Fleece; this Golden Fleece being chosen in token of the shrewd way their fellow had fleeced the Medi-cusses out of much gold.

Right here is where the Association got in bad. For, be it known that when more than one person knows a secret it is a secret no longer. On a certain occasion one of the Yarb Mixers, while under the influence of too much of their favorite brand of strong dope, openly made boast at a party of Medi-cusses, and brazenly scoffed, at the way he and his fellow Yarb Mixers had handed them the citrous fruit, in the way of inert decoctions and substitution of cheap yarbs.

The Medi-cusses pricked up their ears eagerly, their senses being sharpened by the hunger of their bellies; and they whispered one to the other, saying: "This man revealeth a great mystery. Let us have patience and by foxy questions induce him to unravel it to the core." So, by careful inquiry and spying upon the Yarb Mixers, they found out the cause of their undoing, and they rose up as one man and said: "Now, as in treating disease, it is necessary to remove the cause. Let us cut this ulcer out of our midst and go back to the teaching and practices of our fathers; let us gather and mix our own yarbs, so that our patients may have pure healing potions of full strength and the kind of yarbs that we wish them to have."

Now, when these words came to the ears of the National Association of Yarb Gatherers and Mixers, there was loud wailing and gnashing of teeth, and they cried: "We must think of some scheme to stop these pestilential Medi-cusses, or we are undone; the jig will be up." So, a meeting of the Association was called instanter, to devise ways and means of stopping the Medi-cusses from carrying out their fell designs. Old Toxaphore J. Encephalon, B. S., Ph. G., was called upon for a speech. He being the one who had gotten them into this dilemma, they expected him to pull them out.

"Gents and feller citizens," he began, "there is only one way to put the unlucky sign on these Medi-cuss ginks, and that is, to appeal to the ignorunts of the people. Work on their imaginations. Tell them that these ignorunt Medi-cusses haint got no sense enough to gather yarbs, and, as for mixing them, they would be sure to put some rank pizen in every mixture that would be certain death to everyone who chanst t' swaller it."

With that, old Tox sat down, but under somewhat less perfervid expressions of enthusiasm than on the aforesaid occasion. However, they discussed and cussed the vexed question, saying among themselves: "Old Tox is a wise gink, all right; still, so far as we know, there are a lot of ignoramuses among the people who haven't taken any interest in this question, and these guys don't care a rap where they get their medicine dope, just so they get some stuff."

Then one of the Yarb Mixers spoke up: "That is just what makes it easy for us; they don't know anything about it, and they don't care. We will pass the secret word to all the Yarb Mixers to bribe the town-criers, and on a certain day to have them cry out to the people that the Medi-cusses are trying to kill them by using their own yarbs instead of ours. We will scare the lights out of them and stampede them, so that they will go to the King and have a law proclaimed to stop these infringing Medi-cusses from pulling off this stunt before they get hep to what we are up to. Then we'll have them in our grip and won't let 'em give a glass of pump-water without sending us a recipe for it. We will also make it agin' the law for the Medi-cusses to apply plasters or unguents; for we have heard that they are making money by making rubbings with goose-grease for rheumatiz and sich. If there is any money in rubbing in grease, we are the lads to do it.

"We understand that a law of this kind is strictly constitutional, for a similar law was

passed in some furrin country to the west of us—Nevada we think is the name of it—where his Royal Highness King Ignuts Placenticus proclaimed a law that, in case a Medi-cuss wished to administer a clyster, he must call in a Yarb Mixer to mix the soap and water for him, for the reason that mixing soap and water is a very dangerous and delicate process, and should only be performed by one having great skill and experience as a mixer, it being represented to the King that the Medi-cusses were entirely ignorunt of the modus operandi of mixing anything."

But, alas for the plans of mice—and some men! Sure, there's many a slip twixt the cup and the lip. The Medi-cusses no longer were doing the Rip Van Winkle stunt, but were keeping close tab on the Yarb Mixers. They got hep to this scheme of the Yarb Mixers as soon as it was hatched, and they said: "Ha! ha! we shall show these Yarb Mixers a trick or two. We will do unto them as they would do unto us, only we'll do it first, by heck."

So they challenged the Yarb Mixers to do battle to a bitter finish. So, now, the challenge having promptly been accepted, war is declared, in this year of Grace, nineteen hundred and fifteen, and both sides are armed to the teeth with battledore and shuttlecock. The slogan of the Medi-cuss is, "Give us Liberty or give us Death." And the results of the raging conflict are being languidly watched by a disinterested public.

F. A. Wier.

Joplin, Mo.

ANOTHER RULING ON THE FEDERAL ANTINARCOTIC LAW

The following ruling on the Federal Antinarcotic Law (T. D. 2344) has recently been issued by David A. Gates, Acting Commissioner of Internal Revenue. The first part of this ruling is of special interest to physicians. Please read it very carefully.

In entering items calling for narcotic preparations and remedies on the order form issued in accordance with the provisions of Section 2 of the Act of December 17, 1914, *the quantity of narcotic drug to the ounce must be indicated, or, if ordered in tablet form, the total number of tablets and the quantity in grains per tablet should be stated.*

The signing of narcotic order forms with a firm name, with no other name to indicate who wrote the order, will not be permitted. The name of the principal officer of a firm, corporation, partnership, or company, or the person who is granted, through power of attorney, authority to sign such orders, must invariably appear thereon and druggists and dealers are cautioned against filling such orders unless these requirements are complied with. Stamps or printed signatures on order forms are not permitted, and, in every instance, there must be an indication of individual responsibility in the preparing and signing of these forms.

A SAFE AND SANE AID TO THE OBSTETRICIAN

After several years of general obstetrical practice, during which time the stork has led me from the filthy hovel to the modern sanitary home, or the reverse—at times without respite for recuperation of self or supplies, sometimes attended by a more or less capable trained nurse, but more often by a volunteer neighbor-woman—I am glad to welcome to my armamentarium any device that assures aid against the bugbear of infection and promotes the comfort of the patient.

Some months ago, I procured a Huston prophylactic obstetrical pan, as it seemed to meet the requirements of modern aseptic obstetrical technic; and it has proven so satisfactory that I feel that a short description of this appliance as also of my personal experience with it will prove welcome to Clinic readers.

This simple piece of furniture consists of a folding aluminum frame, closed at one end by a pneumatic pad inflatable to any desired tension. Over this frame and pad fits a "pan" of tough waterproofed parchment, the whole constituting a comfortable rest for the patient's back and buttocks and a sterile nonleaking receptacle for the products of labor, which, at the finish, can be picked up and removed, without soiling the bed, and destroyed.

The parchment covers, sterilized, are supplied in sealed individual wrappers and cost but a few cents each. They are, as indicated, to be used but once. The whole contrivance, with extra covers, fits easily into a small space in the ordinary obstetrical bag and is ready for instant use in the worst of surroundings.

In my own practice, the use of this pan has done away entirely with the employment of such makeshifts as the newspaper pad and the oilcloth under the sheet, with their danger of negativing aseptic precautions, as well as with the intractable spineless Kelly pad, with its muss and eternal scrubbing and sterilizing. Besides reducing my own anxiety over possible infection, it has pleased and satisfied the patients and lessened the work of the nurse.

The usual manner of proceeding is as follows: After having the patient's lower bowels

emptied as thoroughly as possible and the usual perineal toilet made, I place a sterile sheet under the woman's buttocks, then wait for dilation of the os uteri to take place. When this is nearly complete, the paper "pan" is adjusted, which is a simple matter. I am now ready to go on with the delivery according to the indications, the infant being received on a sterile pad in the end of the receptacle. Upon the completion of the delivery, the patient raises her hips, the pan is withdrawn, the buttocks are dried, and the perineal pad is applied, and there is none of the changing of gown and sheets or of any inconvenience to the patient.

In an emergency, I have used the pan without executing any of the preliminaries, but adjusted it barely in time to receive the child. On one occasion, where the bed gave way at the critical moment, this contrivance proved a Godsend, for sure, in that it retained the baby, while the mother and the attendants were shrieking and I, who had caused the catastrophe by carelessly resting my weight on the edge of the bed, was rolling on the floor in a most undignified, unprofessional manner.

T. A. Willis.

Clear Lake, Ia.

PICK-UPS FROM HERE AND THERE

Sir William Osler begged the soldiers not to be misled by misguided cranks playing into the enemies' hands by circulating literature on inoculation, stating that it is harmful and even dangerous. The few who objected to antityphoid inoculation were requested to depart at once.—*Canadian Practitioner.*

American Medicine, a live journal under its founder, Gould, never was more alive than now, under H. E. Lewis's editorship.

Now is the time to fetch out records of miraculous successes won in days of yore through ipecac. Why were they not exploited then? Because the drug was so uncertain that successes could neither be proved nor repeated.

Glonoin, cactus, and sparteine are not heart-tonics, yet we continue to get cardiotonic effects from them. Some day we may comprehend the interrelations of vasomotor relaxation and tension and of heart work.

The ubiquitous antivaccinator now urges disuse of vaccination, because there is so little danger from smallpox now. The Greeks have sailed; open the fortress' gates and take in the horse.

Tice claims that tuberculin has lost ground as a remedy and no longer possesses the confidence of the profession.

A common antidote for carbolic acid is alcohol, but cider vinegar is equally good and often more handy.—*Medical Summary.*

G. A. Harman (*Medical Summary*) objects strongly to giving belladonna for constipation. Right—and wrong. In full doses, atropine paralyzes the peristalsis and checks the bowel movement. But, in small doses—*very small*—it merely paralyzes inhibition and favors action. In nearly all the stock pills, the dose of belladonna would be too large had it the full atropine strength, only the poor quality of the drug saves it. In large doses, atropine paralyzes the circular fibers of the muscular coat of the bowel, especially if spastic; but it has much less influence over the longitudinal fibers.

Our habit of speaking of diseases as entities is unfortunate. There is no such thing as a disease, but there are diseased men and women.—Emerson, *Indianapolis Medical Journal.*

The action of antitoxin in laryngeal diphtheria is slow. Intubation should be utilized on the appearance of dyspnea.—W. D. Hoskins, *Indianapolis Medical Journal.*

Aronstam (*Indianapolis Medical Journal*) says the treatment of chancroids consists in cleanliness and cauterization. Both good; but, when you have one to treat, crush and apply a tablet of galactenzyme. Just once—you'll need no more urging.

Dudley Reynolds, dear old Foghorn Reynolds, is dead. Had the grip and died suddenly of heart failure. Love, Owen, Ochterlony, Elisha Wood (the old royal Lion of Peru), Davis, Shoemaker, Stone, Culbertson, Hamilton—of all the brilliant men and choice spirits who made the meetings of the A. M. A. delightful in the old days, scarcely one is left.

Europe's soldiers swarm with lice, and lice carry typhus fever. Look out for an epidemic in the armies this spring.—*Medical Standard.* (The *taches bleuatres* of typhus fever were traced to lice.)

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, *A. M., M. D.*

WITHIN the past few years, our ideas regarding the various joint diseases have undergone considerable change. We now look upon most of them as being of infectious origin, some by specific germs, others owing to a variety of organisms. It is true that there are several bacteria which may produce identical joint lesions. The same germ, on the other hand, may produce lesions entirely distinct. The same organism that produces an acute synovitis with serous effusion may produce pus, or there may be no fluid at all. Even in rheumatic fever, it is possible that we are not dealing with a specific germ; for, different bacteria have been found in the joint-fluid which, when injected into animals, have produced identical joint-symptoms. Among the joint affections which we now consider as of an infectious nature, there are included rheumatic fever, the group covered by the term arthritis deformans, the arthritis accompanied by the acute infectious diseases, those due to the pus-producing bacteria, and a large group of chronic joint troubles not included in arthritis deformans, but nevertheless evidently of an inflammatory nature. The organisms which have commonly been found to cause arthritis are the following: gonococcus, streptococcus, staphylococcus, pneumococcus, colon-bacillus, and influenza-bacillus.

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Infection may reach the joint through the blood, by extension from neighboring infection or directly from the outside through an open wound. An arthritis may complicate most of the acute infectious diseases, in which case a septicemia exists and the infection is easily carried to the joints. The most common acute diseases with joint complications are: gonorrhea, typhoid fever, scarlet-fever, pneumonia, influenza, measles, meningitis, and dysentery. Local pus infections elsewhere in the body are a frequent source of arthritis. Gonorrheal infection of the prostate gland and seminal vesicles, sinus trouble, tonsillitis, middle-ear disease, pus-tubes, and many others may be the source of germs or toxins that are carried by the blood to the joint.

The intestinal canal, including the appendix, has lately been considered a cause of joint trouble. Cases of long-standing arthritis have been cured by catharsis and colon lavage. The nature of this source is not understood. Whether some unknown germ is manufacturing toxins in the intestinal canal or whether there is an accumulation of normal digestive products, we do not know. Direct extension from an osteomyelitis or phlegmon to the joint is frequent. Puncture and gunshot wounds and compound fractures give entrance to some of the most virulent of all joint infections. Sprains and other slight injuries to joints frequently precede arthritis. Particularly is this true of children, in whom the ends of the bones are easily injured and susceptible to infection. Shortly after birth arthritis is, naturally, a result of navel infection or of gonorrhea within a few months.

Ankylosis is to be expected in most suppurative conditions and even in many where there is no effusion. This may be articular or periarticular. If articular, the ankylosis may be fibrous, from union of the opposite surfaces of the synovial membrane, or osseous, when bony union follows destruction of the cartilage. Periarticular ankylosis may be caused by thickening and shrinkage of the capsule or from adhesions and shortening of the muscles and tendons.

The onset of septic arthritis usually is abrupt, but this may be masked by (and for awhile overlooked on account of) the presence of some general infection. The constitutional symptoms of sepsis—fever, chills, sweats, and weakness—are present in variable degrees. Some severe cases run their course without much general disturbance.

Considering all forms of septic arthritis, there is a tendency for it to be monoarticular. When polyarticular, all joints that will become involved usually are so from the beginning.

There are a few cardinal symptoms that are referable to the joints in all forms of acute arthritis. Pain and tenderness over the joint, muscular spasm, with flexion, heat, redness, signs of fluid, and loss of function, commonly are present. The muscular spasm and flexion are produced by stimulation of the nerves supplying the muscles that move the joint. A common law in anatomy is, that the nerves supplying the joint also supply the muscles moving it. The flexors being stronger than the extensors, they cause flexion. This position lessens tension and relaxes the ligaments, causing rest and comfort. In acute serous synovitis, there may be little evidence of any trouble except for the effusion which will usually disappear in three or four weeks. In the suppurative form, the course usually is months.

When of gonorrheal origin, arthritis may be divided pathologically into about four varieties:

1. The dry form, with indefinite joint pains, which lasts a short time and disappears or occasionally becomes chronic.
2. The serous effusion, lasting a few weeks and subsiding with moderate fibrous adhesions.
3. The plastic form, with no effusion and resulting in ankylosis.
4. The suppurative, due either to the gonococcus or to a mixed infection and resulting in strong fibrous or bony ankylosis.

Gonorrheal arthritis often begins in several joints simultaneously, soon subsiding in all except one joint where it is very persistent. It occurs in from 3 to 10 percent of all gonorrheal infections, and may come on as late as one or two years after all local discharge has ceased. It is not uncommon in children, and may come from a genital infection or from a conjunctivitis. Pneumococcic arthritis is present about once in 800 cases of pneumonia, and usually is suppurative. It seldom develops primarily in a joint. In typhoid arthritis, the hip is the usual location. Suppuration in the joint may be difficult to tell if the symptoms are masked by a general infection. In any doubtful case, aspiration should be performed without delay.

Acute joint infections must be differentiated, first and most important of all, from rheumatic fever. This usually is easy if a careful history of the onset is obtained and a thorough examination for a focus of infection elsewhere in the body, as prostatitis, urethritis, tonsillitis or abscess, is made. Rheumatism has a greater tendency to jump from one joint to another and responds to the salicylates. It also is important to know whether a primary osteomyelitis is indicated by extreme tenderness on deep pressure over the bone. Early evacuation of pus here may save the joint. When rheumatism is suspected in children, this should be looked for, and it should be remembered that rheumatism under two years is rare.

In the treatment of all acute joint disease, immobilization and rest are required. When too long continued, however, the procedure may render what otherwise would have been a useful joint, one in which there is ankylosis, and perhaps, too, in a useless position. Next to saving life and limb, the future usefulness of the joint is most important. Much depends on good judgment as to just how long a joint should be immobilized and how soon movements should begin. Besides ankylosis and contraction, other bad results to be avoided are: atrophy of the muscles, foot-drop, wrist-drop, scoliosis, and lateral motion, especially in the knee.

Special forms of arthritis require treatment peculiar to the infecting cause. It is obvious that the cause, if found, should be treated. Urethritis, prostatitis, tonsillitis, and intestinal stagnation all should have their appropriate treatment. In gonorrheal arthritis, the vaccine-treatment is a valuable aid. A beginning dose of 10 to 25 million dead gonococci should be injected, gradually increasing the dose and repeating every three to five days. In chronic types, give larger doses and less often. Opinions differ considerably as to the value of Bier's hyperemia.

The after-treatment consists principally in removing stiffness. Consideration of the muscles moving the joint and their nerve supply also is important. Deformity due to contraction of the muscles and tendons of the joint is overcome by gradual extension with weight and pulley, assisted by massage.

Rheumatic Fever.—The principal indications in the treatment of rheumatic fever are:

1. To place the body at rest, so that the minimum amount of strain is likely to be thrown upon the tissues most likely to be affected: viz., the heart, joints, and muscles.
2. To neutralize the rheumatic toxin or to kill the specific cocci circulating in the body.
3. To reduce pyrexia and relieve the painful arthritis by means of general and local remedies.
4. To guard against cardiac inflammation.
5. To sustain the strength of the patient by means of suitable food.

6. To control hyperpyrexia.
7. To guard against relapses.
8. To restore the general bodily vigor and prevent further attacks.

In my opinion, the vaccine-treatment of rheumatic fever still is in the experimental stage. If a remedy of this character is to be used at all, I believe it should be an autogenous vaccine or the bacteriolytic serum obtained from cultures made from the throats of persons suffering from rheumatic angina. The administration of this serum seems not to be contraindicated by the existence of endocarditis, although it is advisable to exercise caution in using it in cases of high fever, pericarditis, and pleurisy. While I am not ready to recommend the use of this serum, to the exclusion of the salicylate and alkaline treatment, I would advise its trial in obstinate cases and in cases of malignant endocarditis of rheumatic origin.

Chronic Articular and Muscular Rheumatism.—Chronic rheumatism seems to have no connection with the transient attacks of subacute rheumatism, and it must be distinguished also from arthritis deformans, myalgia, and the secondary lesions resulting from traumatism.

The joints most commonly affected are, the shoulder and the knee-joint, although other joints may suffer. This disease never leads to fibrous ankylosis.

Middle-aged people and older and those engaged in occupations where they are exposed to dampness are most liable to be affected by chronic rheumatism.

The general line of treatment recommended for arthritis deformans is of value in chronic articular rheumatism. The best success I have had in the treatment of both forms of chronic rheumatism is with the Mudlavia treatment, in conjunction with massage and the internal administration of equal parts of saturated solution of potassium iodide and English wine of colchicum. Of this mixture, I give from 10 to 20 drops in plenty of water three times a day, after eating. I have cured many cases both of chronic articular and of muscular rheumatism at Mudlavia by means of the mud-baths alone, and much sooner, I believe, than I could have done with any treatment without their aid. While I have tried hot air in joint involvement and dry-cups in lumbago, and other local aids, I have failed to find any one therapeutic measure equal to the mud-baths. I see to it that the bowels are kept open with cholagogs and laxative salines, reduce the urinary acidity by means of sodoxylin or sodium bicarbonate, and overcome intestinal toxemia, if marked, by means of some good intestinal antiseptic. I use at Mudlavia this compound creosote tablets, put up by The Abbott Laboratories, according to my formula.

In muscular rheumatism, rest and electrotherapy, galvanism, faradism, and the high-frequency current sometimes are of value. In chronic articular rheumatism, massaging the affected joints with a salicylic or anodyne ointment and following with the therapeutic light are beneficial. Pain, if severe, can usually be controlled with aspirin, antipyrine or, if necessary, codeine or Dover's powder.

Salicylates alone seem to have but little, if any, value in chronic rheumatism; alkalis and alteratives, especially potassium iodide, are of distinct value.

Neuritis.—The acute stage of neuritis shows inflammation, with redness and infiltration of the surrounding tissues. This inflammation may be interstitial, with an accumulation of lymphoid elements between the nerve-bundles. In this type, the inflammatory process extends into the deeper parts of the nerve. The usual form is the perineural. In the parenchymatous type, we find the changes similar to those that are seen in the secondary, or Wallerian, degeneration, with the result of the nerve-fiber being cut off from the cell-body of the neurone to which it belongs.

The pathology is, that the "myelin becomes segmented and divides into small globules and granules, and the axis-cylinders become granular, broken, subdivided, and finally disappear. The nuclei of the sheath of Schwann proliferate, and ultimately the fibers are reduced to a state of atrophic tubes without a trace of normal tissue or structure."

Atrophy extends to the muscle supplied by the affected nerve, producing marked changes in the interstitial muscular tissues, in some cases only local in character. The nerve involved is sensitive to pressure through at least a part of its length. The greatest points of sensitiveness are at the bone exits or where it traverses tissues over prominent bones where the muscle is too thin to act as a buffer.

(*To be continued.*)

Among the Books

CHILD: "SENESCENCE AND REJUVENESCENCE"

Senescence and Rejuvenescence. By Charles Manning Child, of the Department of Zoology, University of Chicago. Chicago: The University of Chicago Press. 1915. Price $3.00.

If we should be asked to specify the most noticeable and significant movement in medical science in the past quarter-century, we should unhesitatingly declare that it is to be found in the growing recognition of the bearings of biology upon the problems of health and disease. Medicine is, in short, coming to appreciate what it ought to have appreciated long ago, if it had listened to other voices than those of its own fraternity, namely, that the forces of evolution and degeneration, which go ever hand in hand, are the twin factors lying at the root of every phenomenon of life and growth, and deformity and disease; that the quiet but ceaseless reaction between organism and environment is the motive-power at the back of all physical and mental processes; that the continual development of new structures and functions, at the expense of others which are just as continually passing, is attended by periods and conditions of stress which account for at least the organism's part in practically every pathologic conflict.

This is the subject-matter of Professor Child's book. Twenty-five years ago it would have had but scant, if any, interest for the medical man, for in those days, as we have said, medicine was not listening to the voice of the biologist and zoologist. Today she is straining eager ears for all that biology and zoology have to say to her, and the utterances of a man like Child will be received with intense interest by every thoughtful physician.

The work represents a thorough and scholarly investigation, largely at first hand, of the problems of senescence and rejuvenescence in the light of inductive biology and zoology. It would be as foolish as it would be futile for the reviewer to attempt even a cursory resumé of the data and arguments contained in a volume of five hundred pages, in which every sentence—every word, almost—is an indispensable and inseparable link in a cohesive chain of demonstration and reasoning.

Some of the author's conclusions—or, rather, his predications, for, like a true scientist, he offers no hard-and-fast conclusions—are exceedingly interesting and important. Perhaps the most significant is the bearing of his findings on the Weissmann and Lamarckian theories of heredity respectively. After pointing out that, according to his (the author's) investigations, the agamic and the gametic methods of reproduction are fundamentally identical, Child says: "If we accept this theory of reproduction, the Weissmann conception of germ plasm as a self-perpetuating entity, independent of other parts of the organism except as regards nutrition, becomes, not only unnecessary, but impossible." Again: "In general, biologists have been slow to admit the possibility of inheritance of acquired characteristics, because it conflicts with the Weissmann theory, but if we admit that the gametes are integral parts of the organism, there is no theoretical difficulty in the way of such inheritance."

It is an able and thought-provoking book, and we cordially commend it to all who are interested in the large problems of biology.

CUMMINGS: "MODERN FORMULARY"

The Modern Formulary. A Textbook of Chemistry as Applied to the Manufacture of Proprietary Specialties. By W. L. Cummings, Ph. D. Second edition. Newark, N. J.: The Physicians' Drug News Company. Price $3.00.

Perhaps the very best thing that can be said about this book is, that the formulas presented are genuine, inasmuch as they represent the final result of the actual testing-out of hundreds of them, their acceptance resting upon the tests, and upon numerous experiments, to determine the best methods of manipulation. That this feature of this formulary is singled out for its highest praise, does not in the least reflect upon the other features, all of which appeal to one—theoretically—as excellent. The distinguishing thing

about this particular feature indeed is its rarity, for, most formularies, unfortunately, are mere compilations from older sources, which themselves are compilations of the same kind; and so backward into the dim past, perpetuated, unauthoritative, untried—rubbish mostly.

To the experienced pharmacist, many of the explanations and directions given will appear superfluous. However, the book has been written for those who may be supposed not to have enjoyed the advantages of a chemical and pharmaceutical education, that is, the average intelligent layman, and every effort has been made to bring it within the understanding of the veriest neophyte in the art of manufacturing proprietary preparations for household use. It is intended for everyday use in the laboratory. A very comprehensive index remedies the grave defect, that no alphabetical order of arrangement has been attempted. In the present edition the greatest care has been exercised in the elimination and correcting of errors which inevitably will creep into a first edition.

BERGEY: "PRINCIPLES OF HYGIENE"

The Principles of Hygiene: A Practical Manual for Students, Physicians, and Health Officers. By D. H. Bergey, A. M., M. D. Illustrated. Fifth edition, thoroughly revised. Philadelphia and London: The W. B. Saunders Company: 1915. Price $3.00.

The regulation of personal and community hygiene has, in these latter days, become so essential and routine a part of the physician's duty that a comprehensive textbook upon the subject is almost a necessity to students of medicine. It manifestly is impracticable, of course, to write into a mere textbook all the flux of ever-changing detail that makes up the practical application of the science of hygiene. The best book is that which best presents the principles of the science, upon which the practitioner may build the superstructure of practical application which best suits his circumstances and time and needs.

Such a book is that of Doctor Bergey's, now issued in its fifth, revised, edition. It addresses itself to both parties concerned in community-hygiene. To the engineer and architect, it expounds the sanitary requirements involved in ventilation, heating, water-supply, and sewage-disposal; to the physician and health-officer, it imparts the information necessary to familiarize them with the advances made in hygienic practices in recent years. The author wisely refrains from attempting to cover the entire subject, but confines himself to those aspects which his experience has shown to be the most important for those for whom the book was written.

BACON: "OBSTETRICAL NURSING"

Obstetrical Nursing: A Manual for Nurses, Students, and Practitioners of Medicine. By Charles Sumner Bacon, Ph. B., M. D. With 123 engravings. Philadelphia and New York: Lea & Febiger. 1915. Price $2.00.

As the author very aptly points out in his preface, obstetrics is the branch of medicine, above all others, where the province of the physician and of the nurse overlap and merge. The physician, on the one hand, should understand all the details of obstetrical nursing, while, on the other hand, the nurse assumes some of the responsibilities of the physician, and, therefore, should have a thorough understanding of the medical and surgical side of the subject. Each ought to possess a working-knowledge of the other's art, for, each is, at times, obliged to assume the other's part, and both must work together in an interlocking fashion that is not counterparted in any other department of medicine or surgery.

It will be observed that the title of this book is not "Obstetrics for Nurses," but "Obstetrical Nursing." As a matter of fact, the author has not so much in view the nurse's side as he has the needs of the practitioner. His experience has taught him that, in his early years, the average physician is painfully ignorant of the art of obstetrics from the point of view of the lying-in room; for, he has had next to no practical training in this direction. The ordinary textbooks give but a very limited amount of attention to this branch of the art. It is to make up this lack on the part of the medical student and of the practitioner that Doctor Bacon has set himself in this book; and we heartily endorse the recognition of this lack as also the praiseworthy effort to supply the need.

SUNDERLAND: "THE HEART"

The Heart in Early Life. By G. A. Sunderland, M. D. London: Henry Frowde, Oxford University Press. 1914. Price $2.00.

Every diagnostician knows that there are marked and important differences between the

heart of an infant and the heart of an adult, differences that have a momentous bearing upon the diagnostic as well as upon the therapeutic aspect of a given medical case. In these two instances, the infant and the adult, we have, to be sure, the extreme poles of immaturity and of maturity—as exemplified in the heart—which are universally recognized and reckoned with. What is not so generally understood, however, is, that all the way between these two extremes there are going on modifications of heart structure and heart function, which render the period of childhood and early adolescence, so far as this organ is concerned, distinct from the period of adult life. This youthful period, from many points of view, is the most critical in the history of the heart. It is in early life that the heart is attacked by those infections that become the most common causes of organic disease in later years.

In view of these considerations, it is somewhat surprising that not more literature is devoted to a study of the adolescent heart, and, thus, withal, this book of Doctor Sunderland's assumes a most welcome place. It is an excellent, practical book, dealing with the subject in a modern, scientific and withal a common-sense fashion, The author has profited by all the more recent teaching on cardiology and improved instrumental methods, in the determination of his facts and the elucidation of his problems.

TOUSEY: "MEDICAL ELECTRICITY"

Medical Electricity, Roentgen Rays, and Radium. With a Practical Chapter on Phototherapy. By Sinclair Tousey, A. M., M. D. Second edition, revised and enlarged. With 798 illustrations, 16 in colors. Philadelphia and London: The W. B. Saunders Company. 1915. Price $9.00.

With the publication of the first edition of this work, Doctor Tousey, so to speak, became famous over night. From that time forward, Tousey and medical electricity were identified with each other in the same way that the late Kassabian and the x-ray were mentally associated. The present edition—thoroughly revised and very greatly enlarged—is evidence that Doctor Tousey rose to the obligations which his deserved popularity imposed upon him.

The book contains many excellent features that recommend it to the student and the practitioner, but perhaps the most conspicuous, as it is the most inclusive, is the completeness and comprehensiveness of the author's treatment of his subjects. It might almost be said to be a cyclopedia, as well as a textbook, of medical electricity. Roentgen-rays, and radium. Beginning at the very beginning, with the physics and principles of electricity and radiology, it does not leave the subject until the last word has been said about its clinical application, its technic, and its indications.

Doctor Tousey's book has already done much, and the latest edition will do yet more, toward insuring for medical electricity that dignified and adequate recognition which it richly merits. A subject like this, of course, lends itself very readily to diagrammatic and photographic illustration, and the artists, generously supported by the publishers, have not failed to avail themselves of this possibility to the limit.

JOHNSTON: "MEDICAL ANATOMY"

Medical Applied Anatomy: For Students and Practitioners. By T. B. Johnston, M. B., Ch. B. With 146 illustrations and 3 colored plates. London: A. & C. Black, Ltd. 1915. Price $1.80.

There are books aplenty devoted to surgical anatomy, but the physician who desires to refresh his memory on the many applications of anatomy to clinical phenomena often is hard put to it to find any information upon the subject, except by consulting the different sections of the larger textbooks of descriptive anatomy. Yet, for one practitioner who stands in need of such a book for surgical purposes, there are a hundred who need it, and need it badly, for purposes of medical diagnosis and interpretation. It is the object of the author of the present volume—who is a lecturer on anatomy at University College, London—to remedy this lack.

This book on applied anatomy regards the human body from the standpoint of the internist. Practical application is closely interwoven with anatomical description; special attention is devoted to the question of referred pain, while outlines of the development of certain parts of the body are included wherever they enable the reader to understand the adult body more fully. The book is well and generously illustrated; it also carries in parallel columns a glossary of the oldtime nomenclature and the B. N. A. set. This book should prove of great practical value to all who are engaged in the practice or in the clinical study of medicine.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Queries

QUERY 6033.—"Specifics for Pertussis, Angina, and Neuralgia?" J. T., Delaware, after half a century's practice, presents what he believes to be a specific for whooping-cough.

Cantharides, powdered	grs. 15
Tartar emetic	grs. 10
Water	ozs. 16

Directions: Give 1 tablespoonful before meals and on going to bed. If it causes nausea, reduce the dose.

For angina pectoris, he gives, at once, 3 drops of amyl nitrate in a tablespoonful of water, then adds 5 drops to a half tumblerful of water and directs to give "1 teaspoonful of this every twenty minutes until pain is gone." All that remains, he says, is, to "collect my fee (if I can), take my hat and go home."

"Compare," our correspondent adds, "the simplicity of these two methods with those usually employed. But, then, one ought to learn something in fifty years of practice."

Next, a "specific for neuralgia" is offered, namely:

Magnesium phosphate	ozs. 2
Hot water	drs. 20

Directions: A teaspoonful (dr. 1) every ten or fifteen minutes, till pains abate, then every half hour, till all has been taken.

This remedy rarely, if ever, fails, according to the Doctor, and he further states, that the "neuralgia never returns."

"This mixture is equally a specific for painful menstruation when the pain is of a neuralgic type," the doctor asserts.

To be frank, doctor, we should hesitate to give a child 1-2 grain of cantharides, the amount that would be received in a tablespoonful of the preparation containing 15 grains to the pint of water. But, even though Spanish-fly powder is not soluble in water and not extracted by it, and the sediment be not shaken up, we should be very much afraid of setting up strangury or even hematuria. Can it be possible that this prescription has been transcribed inaccurately? The average dose for an adult is 1-2 grain, and an infant should receive proportionately very much less.

Then, again, amyl nitrate is absolutely insoluble in water; and, being an extremely diffusive, unstable liquid, evaporates rapidly; hence, while a patient might receive the benefit of the first 3 drops taken separately in water, he certainly would not derive much advantage by taking a teaspoonful of the 4 ounces of water to which the 5 drops have been added, and which you order to be taken every twenty minutes.

As a matter of fact, five minutes after the amyl nitrate is dropped into the glass, it would be difficult to recover a fraction of the amount; 2, 3 or 4 drops of amyl nitrate may be given in brandy or a hydroalcoholic vehicle, but just as good results follow the inhalation of 1, 2 or 3 drops.

Merck calls attention to the fact that amyl nitrate is so volatile, that it practically is impossible so to stopper a bottle that it will hold it without loss.

These comments are not made in the spirit of criticism, but because we really desire to know whether you find your method superior to those usually adopted.

As you say, a man practicing medicine fifty years "ought to learn something," and it is possible that you have excellent reasons for relinquishing the usual methods of administration.

QUERY 6034.—"Sodium-Ethylate. Callosities. Dosage of Thyroid Extract." J. A. C., Missouri, writes that he recently used up a whole vialful of sodium-ethylate solution in a case of multiple warts (there were 16), and most of them yielded. A few of the larger ones, however, were not completely destroyed, and he was forced to apply fuming nitric

acid. Now the warts are about gone and, he thinks, will disappear entirely in a few days. He has also used the salicylic-acid, alcohol, and collodion solution, but it never seemed satisfactory.

"After a few days," the Doctor continues, "the acid [? !] in the sodium ethylate solution seemed to collect around the stopper, although it was kept well corked. This, in my judgment, caused the preparation to lose some of its strength. On the whole, I should say, however, that this is a reliable preparation for the removal of warts generally, although possibly it is not infallible.

"2. One of my patients, past 65 years of age, is afflicted with callouses on the soles of his feet, and they are decidedly painful. The various corn salves and 'cures' do but little good. What can I do for him?

"3. A child now 2 1-2 years of age, a cretin, fell into my hands when it was two years old. It now weighs only about 16 pounds. It was obstinately constipated, its tongue protruded, it had a silly, idiotic expression, its movements were almost always incoordinated, the skin was leathery and wrinkled, its head dropped down on the shoulder (the neck not being strong enough to support it), the back was too weak to support the body very long at one time, and, besides, the child showed all the other usual train of symptoms.

"During the first year of its life, treatment consisted mainly in giving strong cathartics, to overcome the constipation, but failed. When I took charge, I overcame the constipation by means of injections of olive-oil. About eight weeks ago, I put the child on desiccated thyroid extract, gradually increasing the dose, until now it gets the equivalent of 2 1-2 grains of the gland twice a day. There has been a wonderful improvement: the tongue does not now protrude; the child has a normal, intelligent expression; it plays with its hands and seems interested in everything.

"However, while it is cutting a number of teeth now, it does not gain in weight, although taking plenty of good milk and malted milk, and other easily digested foods. Digestion and bowel action seem normal. The child does not talk and can not walk; the whole body has a soft, limber 'feel' like a dishrag, and I am not sure that it is improving as fast in this way as it should. The skin peeled off under this treatment, and it now looks about normal.

"Am I giving enough thyroid extract? Should I add other medicaments? (Am giving the calcium-lactophosphate tablets now.) About how long before I might expect the child to begin growing and increasing in weight, to walk, and so on?"

Ans. 1. It is impossible to prevent the deposit about the stoppers of dermal-caustic vials; unless they are protected with vaseline, there is a direct action upon the glass. We do not think, however, that the solution remaining in the bottle is rendered less active. We very rarely apply sodium ethylate to warts, but find it invaluable in the treatment of blood-filled growths.

Ans. 2. Callosities of the soles sometimes prove extremely rebellious to treatment. Salicylic acid in strong solution removes corneous epidermis, and we suggest, therefore, that the patient first soak his feet for twenty or thirty minutes in a 1 : 32 solution of magnesium sulphate, and then, after removing as much of the calloused skin as possible and drying well, apply a dermal solvent consisting of alcohol, drs. 2 1-2; extract of cannabis indica, grs. 10; salicylic acid, grs. 30; collodion, drs. 1 1-2. Apply with a brush twice daily, repeating the soaking of the feet every third evening. We believe that in a very short time the callosities will disappear. Should the parts become painful, suspend treatment for a few ways; then resume. Lactic acid has been used by this writer, with success. However, a very small quantity, only, should be applied at one time. Be sure that the patient wears properly fitting shows. As soon as the callosity has been removed, he should dust into the sock, each morning upon rising, a little zinc stearate.

When the callous is very thick, the best result may be secured by painting on a solution of caustic potassa. Several applications may be made within an hour, then the softened corium is removed by scraping or by shaving it off with a sharp knife. Great care is necessary.

Some writers recommend the continuous application of a 10- to 25-percent salicylic-acid-rubber plaster. After several days, this is removed and the foot soaked in a magnesium-sulphate or sodium-bicarbonate solution and the mass then rubbed away. This application may be repeated once or several times, according to the degree of thickening.

Ans. 3. We hardly should give a 30-month-old child more than 2 1-2 grains of desiccated thyroid gland each twenty-four hours. However, we should administer the nucleinated phosphates, two tablets three times a day, and 1-2 grain of papain and

pepsin after each meal; later adding arsenic to the thyroid gland. An excellent plan would be, to give 1-2 or 1 grain of desiccated thyroid gland and the arsenates in conjunction.

QUERY 6035.—"Eczema Disappearing After Erysipelas." J. N., Ohio, recounts a little experience with weeping eczema in a man 50 years of age, whose legs were thus affected for many years, but healed spontaneously after an attack of erysipelas. This seeming cure has now lasted for six months, no signs of recurrence appearing to date. With this case in mind, our correspondent asks whether, in our opinion, it would not be justifiable to inoculate eczematous individuals with the streptococcus erysipelatus, in order to cure this stubborn disease.

The possibilities are that the cure, which you say has now lasted for the past six months, may prove permanent. There always is the probability, however, that the general constitutional condition which previously obtained may recur and the patient again have his eczema.

So far as is at present known, eczema in all probability is caused by pyogenic organisms normally found in the skin itself, and which become active and produce what we term "eczema" when the patient's resistance is markedly reduced as a result of some general derangement.

The reaction to a streptococcic infection, such as that of erysipelas, was sufficient, in all probability, to cause the destruction of the organisms producing the eczema; and, as the patient engendered antibodies sufficient to recover from his erysipelas, there also were produced antibodies against the organisms causing the eczema. Further, the general systemic reaction in the attack of erysipelas may have been such as to change the underlying pathological condition of his body, with the result that the eczema no longer is able to obtain a foothold.

However, in answer to your question as to the permissibility of inoculating the erysipelas streptococcus in order to cure eczema, we must say, definitely, "No," and for these principal reasons: (1) The impossibility of definitely limiting erysipelas. No one is justified in inoculating an individual with a disease that presents the high percentage of mortality that erysipelas does, for the purpose of curing or attempting to cure a purely localized, non-fatal disease—such as eczema. (2) You have no definite proof, nor can you guarantee to the patient, that, if he should recover from the erysipelas, his eczema will be cured, owing to the fact that he may have as before stated, some general constitutional derangement, as a result of which his eczema might persist. (3) The probabilities of a fatal outcome, if erysipelas be inoculated into an eczematous lesion, are much greater than if the patient had a simple erysipelas alone, because under such condition you have a mixed infection, the streptococci and staphylococci aiding one another, which is much more likely to result in a fatal issue than infection with either one alone.

This seeming coincidence which you report has been brought to our attention by several other men, but in each and every instance the infection was, as in your case, accidental, and, while in many of them the eczema was cured, in some cases it not only was not benefited, but became much more severe and extensive.

Unfortunately, we do not as yet possess sufficient knowledge to enable us to state definitely how the eczema disappeared. One can only theorize. If we had such definite knowledge and if we were able to limit an erysipelas absolutely, then, and then only, might such a procedure be justifiable; but until then this writer, personally, believes that such a course would constitute malpractice.

It has been known for many years that the toxins of streptococci, and similar organisms, have a tendency to cause a degeneration in certain living cells, and this has been proven, not by injecting the living organisms, but by injecting their toxins, which do not produce the disease; for example, the use of Coley's fluid, which is essentially a solution of the toxins of the streptococcus and bacillus pyocyaneus, in the treatment of malignant growths. The use of Coley's fluid might be justifiable in the treatment of eczema, but, surely, not the use of living streptococci.

QUERY 6036.—"Intercostal Neuralgia or Subluxation of Vertebra?" H. R. W., New Mexico, was recently consulted by a lawyer, 78 years of age and of temperate habits, Some time ago, this man rode five miles on a hayrack and had to cross several ridges going and coming; he also was chilled. The following day, he experienced pain in his right side, for which kerosene was applied and the area blistered. A physician was then called, who pronounced it shingles. The man was in bed for three weeks, but got no relief. He became somewhat emaciated, consulted different doctors, including an Osteopath, and

finally went to some hot spring, without getting relief. At present his general health is good (as his looks show), but the pain continues intense at all times, and one spot near the spine is very tender and the pain here excruciating. There never has been any external manifestation, save for some half-dozen small pimples at one time over the seat of the pain, which extends from the spine to the median line. Our correspondent continues:

"I have never given this man a dose of medicine, but pronounced the first pain as intercostal neuralgia, and this has developed into a neuritis, probably of senile type, caused probably from pressure of the vertebra upon some nerve, owing to faulty posture during forty-five years of office-life. Exercise in the morning makes his pain feel better, but the effect is soon lost. What is this man's trouble, and what can I do to relieve him?"

It is just possible that there is a subluxation of the vertebra, sustained during that long ride on the hayrack; on the other hand, your diagnosis may be correct. The dermatosis which the first physician pronounced shingles was, we think, caused by the application of the kerosene. Still, it would be well to get a clear idea of the patient's body-chemistry. At the same time you should institute a very careful examination and see whether you can detect displacement of the vertebra. Test the reflexes and electrical reactions. Under any circumstances, outline diagrammatically any possible hypersensitive areas of the spine. Is there any hepatic or splenic congestion?

Query 6037.—"Undeveloped Cervix." S. M. B., Iowa, has under observation a woman, 38 years of age, who, although her menstruation has been regular, has not conceived after nine months of married life. She experiences some ill feeling in the pelvic region during and for some days after menstruation. Her general health is good, and there is no tenderness in the region of the ovaries and uterus, except as stated. Examination about one week after the menstrual period revealed a cervix that appeared different from any this correspondent, as he writes, has ever seen. It has a healthy pink color, and there is no granulation, no ulcer, and no discharge, except a little healthy-looking mucus. The cervix itself has the shape of a small rubber ball with a minute opening. The woman says that it seems to her as though all the abdominal contents were "too high up" and that she would feel relieved if they could be drawn down. No cause for such sensation could be discovered. The abdomen is not full and no indication of an abnormal growth exists. We are asked whether a uterus with such cervix can be impregnated.

Without making a very thorough examination of the pelvic viscera, it would be impossible to express a definite opinion as to the possibility of this woman becoming pregnant. However, from the data supplied, we are inclined to believe that the cervical canal will have to be dilated before conception can take place. Not infrequently a "button" cervix may be regarded as evidence of an infantile uterus. However, a conical shape of the cervix, associated with a pinhole os does not necessarily predicate any other defect of the reproductive organs.

Try to locate the uterus. If you discover any malposition, correct it. In addition, dilate the cervix, either instrumentally or by the introduction of tupelo tents, making sure to fasten your tent securely. If tents are used, the patient must be examined every forty-eight hours.

Patency of the cervical canal may be ascertained by means of a sound; in fact, this writer repeatedly has secured satisfactory results by means of passing sounds every second or third day, selecting, at each sitting, one of the next-larger size. Of course, in this instance, the age of the woman must be borne in mind, and, if she is to become pregnant at all, the sooner this occurs, the better.

Query 6038.—"Neuritis or Joint Lesion?" A. O. R., Oregon, last March stood on wet ground until his feet were thoroughly chilled. That evening he happened suddenly to throw his left hand over the shoulder, when an excruciating pain struck him in the latter, and ever since this pain is felt whenever he makes the "wrong motion." Otherwise, he can use the arm freely, even reaching over his head, but cannot put the left hand in the left hip-pocket or lay it on the right shoulder without experiencing that "cutting, excruciating pain." At night, the arm will grow tired when kept in one position, and he is awakened by the pain. After the pain in the shoulder subsides, which is in a minute or so, a dull pain remains in elbow, axilla, and up the side of the neck. This also usually passes in a short time, but at night it persists until, after many trials, a comfortable position has been found. One brother physician whom he consulted says

that it is "irritation due to too rapid heart action," while another calls it "brachial neuritis, which, with care, will disappear."

In June, the Doctor had an attack of congestion of the liver, which confined him to the house for several weeks, but at present his health is good. He is 62 years old. He lost 31 pounds during the attack in June and July, but has regained 18 pounds, which leads him to believe that he still has good vitality.

As you can readily understand, doctor, it is a most difficult matter for us, with our limited knowledge of conditions, to venture even a provisional diagnosis. It is just possible, of course, that a joint lesion was incurred when playing with the child; on the other hand, the condition may be brachial neuritis. The attack of hepatitis must not be forgotten; a more or less serious circulatory or metabolic disorder may be present. The fact that you have regained 18 pounds of lost weight shows conclusively that you can "come back."

It would be well to get the best confrère in your locality to make a thorough physical examination and report his findings. If possible, have the electrical reactions tested. Note the condition of the reflexes, also the area of the hepatic dulness. See whether there is any tenderness upon pressure about the shoulder or elbow or any observable abnormality. What is the character of the pain—dull and boring or lancinating?

As you are aware, sprains of the shoulder-joint are somewhat peculiar in character and frequently prove troublesome. Pain at the elbow is not frequently observed, but as a rule indicates synovitis. Generally there is injury to the internal lateral ligament.

The shoulder symptom may be slight, consisting chiefly of stiffness and pain on certain motions; these may increase in severity and the joint become stiff, or the joint may remain perfectly movable but extreme pain occur upon the execution of certain definite motions. The most difficult condition to diagnose is, irritability of the capsular ligament. Occasionally a synovitis, a tenosynovitis or a bursitis is met with. Only the most careful examination will enable us to differentiate periarthritis of traumatic origin.

Careful manipulation and the application of an ointment such as guimethol (guaiacol, methyl salicylate, menthol, lanolin, and petrolatum), besides putting the arm in a sling, supporting the tip of the elbow and preventing the dragging of the weight of the arm on the capsular ligament, may be tried. It would be well to have your urine examined. If an acidemia exists, symptoms will be distinctly modified by its correction.

Query 6039.—"Vicarious Menstruation." C. O. R., Colorado, wishes to know whether anything can be done to make the blood come through the womb and vagina, instead of through the nose. He has advised dilatation of the cervix, but cannot get the patient's permission. "Anyhow," he enquires, "would that do any good, or is any medicinal treatment known to be successful?" The girl is 15 years old and menstruated (though with pain) for more than a year, when she began having nosebleed at, and for about a week previous to, the menstrual periods. She is now menstruating, but the nosebleed was so profuse for a week prior that her mother was afraid that "no blood would come the natural way." The mother always menstruated all right. The girl is thin and nervous, and has been rather delicate since her fourth year, when she had some stomach and bowel trouble. She is an ambitious student in the high school. While not now constipated, she was so formerly.

Unfortunately, we have not a clear-enough idea of conditions to discuss this matter very intelligently. In true vicarious menstruation, there is, as a rule, no uterine flow, but occasionally, in connection with the abnormal periodic hemorrhage, there may be a monthly secretion of colostrum, profuse leucorrhea or even diarrhea.

Hemorrhage from the nose, of course, is most frequently observed, while occasionally bleeding occurs at the site of a scar, an ulceration, the ear, conjunctivas, kidneys, bladder, larynx, respiratory and alimentary tracts, gums, stomach, intestines, and various other points. But, also, these hemorrhages may be subcutaneous, petechial points or ecchymoses forming.

As you will readily understand, any remedial procedure, to be effective, must be based upon a clear understanding of the causative disorder. It is more than likely that the subcutaneous injection of emetine will promptly control an epistaxis of this nature. In the intervals, practically always emmenagogs, especially those direct in their action, are indicated. Marked results have been secured from the prolonged administration of the arsenates with nuclein, viburnoid, and caulophylloid.

As to your patient, maintain thorough elimination, to start with. Apply to the nasal mucosa hamamelis and calendula (aqueous extracts), 1 part of each to 2 parts

of water; or instruct her to swab the nares morning and evening with this solution: Colorless fluid hydrastis, 1 ounce; aqueous extract of hamamelis, 1 ounce; glycerin, 1-2 ounce; water, 4 ounces.

It would be well to make a very thorough examination of the girl's pelvic viscera. Is there a tuberculous taint?

QUERY 6040.—"Proper Procedure in Abortion-Case." J. W. S., New York, asks: "What is the proper procedure in the following case: A woman produces abortion by mechanical means. A few days later, the doctor is called in and elicits this fact. What should he do to protect himself from the dangers that might arise?"

This question is more easily asked than answered; but, naturally, what the physician does will be modified more or less by circumstances. However, first of all, he must endeavor to protect himself; therefore, when advised of the circumstances, he should, before making an examination or taking any other active step, insist upon the presence of another physician, and to him essential facts should be related fully. Some practitioners have felt themselves safe when they have secured a signed statement from the woman or an acknowledgment of her act in the presence of one or two competent witnesses. Sometimes, however, a woman strongly objects to making such a statement and expects the physician to hold inviolate the confidence she has reposed in him alone. Under certain circumstances, and with certain women, the average physician may feel inclined to take a chance and render the necessary service. However, there is no question that by so doing he places himself in an exceedingly dangerous position. This writer, under similar circumtances, would frankly explain to the woman the danger he would incur by undertaking to operate alone, and would try to convince her that for her own safety the presence of another physician was essential.

When a woman induces abortion and later sends for the doctor to stop the hemorrhage or to remove the retained placenta, she is in a "tight place," and it is impossible always to tell what the outcome may be. Should she die, there naturally is going to be considerable gossip (especially if she should happen to be unmarried) as to the cause of her decease, and the physician who attended her is very likely to be accused of producing the abortion. It is all very well to present her statement, but denials and explanations offered after the woman is dead have very little weight with the general public, whereas the attendance of another reputable practitioner or the procuring of a properly witnessed signed statement by the patient before operative interference is attempted renders the attendant's position impregnable.

We present this subject for discussion, believing that at some time or another practically every physician who has established a general practice has found himself in the position described by our correspondent.

QUERY 6041.—"Probably Hysteria." B. F. S., Arkansas, presents the following data concerning a man who is "paralyzed in the lower limbs." His age is 45 years; height, 6 feet; usual weight, 168 pounds; apparently no loss; general health previous to the stroke and also at present, good; does not use tobacco or coffee and has no bad habits; is a school-teacher, married, father of seven children; sleeps well; disposition, cheerful. Near ancestors, two were crazy, or, at best, eccentric. The stroke occurred in 1913. For six months, there was not much improvement. He was treated by a local doctor, also by a chiropractic; has had no treatment whatever for eighteen months.

For eight years previous, the man had held a position as cashier in a bank, but lost the place very suddenly, when fear of starvation for his family caused him to worry and he jumped headlong into heavy, rough work. When he tried to rise from his bed one morning, he found he could not use his legs, and since then has used a wheel-chair. He can now use some of the muscles of his legs, move his feet a little; but cannot use crutches. At times, "small nerves in his face twitch."

This case is decidedly interesting, to say the least; however, after a very careful consideration of the clinical data presented, we are strongly impressed with the idea that this patient is hysterical and has no organic lesion. This writer knows of no pathologic lesion which would suddenly paralyze the lower limbs in the way described. A spinal hemorrhage certainly would, of course, manifest some other plain symptoms by which it could be diagnosed. Nevertheless, this is a possibility and should be investigated.

We should like to know the condition of his patellar, plantar, and ocular reflexes, and also the condition of his muscles, whether they are flabby or spastic, and whether they have wasted during the disease or not.

With such data at hand, we could make a more intelligent diagnosis. The condition of the body-chemistry should also be ascertained.

The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use

Vol. 22. No. 11 NOVEMBER, 1915

Let's Tell the People About Our Work

THE advance sheets of the annual report of the Rockefeller Foundation, which lie before us, tell a wonderful story of the educational work that is being done among the people of southern states and of Central America, in connection with hookworm-disease. The whole work is done by means of demonstration. The field-directors tell the story of this disease in varied graphic forms and in terms so simple that the common man, although he be illiterate, may see and understand. In the South, the work is done chiefly through the medium of the schools, the public press, pamphlets, and circular letters.

Among the natives of the tropical countries, however, the subject must be presented in a more direct and concrete form. Here, the directors rely more upon the telling of the story by word of mouth, and while they are telling it they illustrate its details by means of lantern-slides, photographs, and objects. Thus, they exhibit the egg of the parasite microscopically enlarged; they show parasites that have been expelled under treatment; and by means of the lens they show the living, squirming embryos that live by teeming thousands in the soil that has been befouled by infected persons and which are ready to infect anyone with whose bare skin they come in contact.

The disease thus lends itself so readily to simple demonstration that the people—even the primitive natives of tropical countries—easily understand its whole story; and, as a result of this educational work, the people cooperate helpfully both in the work of treatment and that of prevention.

This is a specific application of the same principle which we have frequently urged with respect to the science of medicine in general, namely, the frank and unreserved opening to the lay public of all the moving panorama of medical knowledge and progress, so that all who run may read. Some little time ago, Mr. Garrett P. Serviss, the popular writer on astronomy in this country, advocated the erection and endowment of a large telescope for the public, through which the people might see with their own eyes the astronomic marvels that fired their imagination and excited their higher curiosity, thereby furthering the cause of science and general education. Applying Mr. Serviss' suggestion to the phenomena of medical science, we cordially commend his proposal as being worthy of adoption.

It is not to be supposed that the building of a popular observatory and the viewing of the heavens through its telescopes by the public eye would turn anyone into a quack astronomer or injure the interests either of the public or the astronomers; nor, on the other hand, is it at all likely that, taking the public into our confidence in matters of medicine—allowing them to gaze through our telescopes, so to speak, and witness in their own way all that passes across the firmament of medical science—would promote quackery or self-medication in the layman or in any way impair the relations between him and the physician. On the contrary, as Mr. Serviss observed, "it would be a corrective for all intellectual narrowness, superstition, ignorance, bigotry, mental blindness, and pettiness of view."

There was no suggestion in Mr. Serviss' proposition of grudgingly and paternally doling out astronomic education to the public in such doses as the astronomer thinks the public ought to have or might be able to digest. His idea was, to admit the public into full and unstinting partnership, in the people's own way and to the extent of their viewpoint, in the truths of astronomy, to say to them, in effect: "Here are the phenomena that are daily passing across the field of our work—consider them. While it is true that our technical business with them gives us a peculiar relation to them, you, from your viewpoint, understand and invest them with a significance just as important and worth-while as ours."

Such is the public partnership in the truths and progress of medical science which this journal has earnestly advocated, and will continue to advocate.

The rewards of life are for service. And the penalties of life are for selfishness.—The Fra.

A FEW FACTS ABOUT INFECTION

Infection consists of the introduction into the human economy of a foreign element, a living invader. However, unless we have disordered function or there is exceptional virulence of the invader, the possibility of such invasion being successful as also the gravity of its effects really depend upon the condition of the subject himself, including his self-protective powers as opposed to the virulence and proportion of the infection.

Let us take as a working-hypothesis the presence of innumerable bacteria at every point upon or within the body, ready to effect a lodgment whenever and wherever the forces of defense may weaken. Together with this, adopt the doctrine of a *locus resistentiae minoris*, that is, that there is some part more vulnerable or less strongly defended than the rest. This may be the result of injury or previous disease. Under these conditions, if the general bodily resistance is temporarily lowered, local disease appears at this the point of lowest resistance.

The lowering of the general bodily resistance may be a consequence of exposure to cold, for instance; then the ever-present pneumococcus invades the tip of a lobe next the bronchi; or streptococci attack the tonsils or pharynx and produce tonsilitis, rheumatism or septicemia, depending upon reduction of resistence. Excessive physical exercise may load the body with waste faster than the organs of elimination can dispose of it—the athlete's training, let us say, then is marked by a crop of boils. No single cause of lowered vitality, with resulting infection, is so important as fecal toxemia, for, when the defensive forces of the body are taxed to the utmost in combating the absorbed toxic material, they cannot in addition resist the invasion of pathogenic bacteria.

In dealing with infections, we have two resources, namely, to attack the invading host directly, and to increase the general bodily resisting-powers.

This indicates resort to socalled specifics, and our hope in this direction lies in studying the biology of each particular microorganism. This search has been prosecuted for ages, but only recently has any measure of success, that inspires hope, been attained.

True, we have long known that quinine was practically a specific against the parasite of malaria, and have known even longer that mercury availed in syphilis. Not so long ago we found that iodine induced an amelioration of the symptoms, and that the iodides of mercury possessed certain advantages over other forms. About sixteen years ago we added arsenic iodide to our customary antisyphilitic combination, and obtained better results than ever before; so that we were the less surprised when the brilliant results following the use of organic arsenic were announced. William J. Robinson repeatedly has called attention to the remarkable value of pilocarpine in treating syphilis. But more of this later.

A third instance is diphtheria antitoxin, the first, and greatest, success of serum therapy. Most wisely this has set the pro-

fession to search and to try further to develop the antitoxic principles. And this has yielded promising results; only, unfortunately, it led to a desertion by many of the older resources, the drugs. The success of arsenobenzol, however, has gone far to check this defection, for Ehrlich has shown that the botanical and mineral remedies, far from being exhausted as to their possibilities, have never been studied scientifically, and that, indeed, many of these drugs possess curative powers hitherto undreamed of. And this applies to the oldest and the best-known agents of our materia medica.

Next to these, lies a group of drugs that are of value in many infections, but more of especial value in certain ones. Thus, for sixteen years we have looked upon the sulphides of calcium and of arsenic as exerting marked control over the manifestations of gonorrhea. Then Coleman reported that calcium sulphide exerted a marked effect in whooping-cough. Castro reported on its value in smallpox. Now nearly every infectious disease affecting man has been reported as being similarly favorably influenced by calcium sulphide.

Not that this testimony is uniformly favorable; but, then, it is not to be expected that all doctors using various preparations of a salt notoriously difficult to handle pharmaceutically and prescribed in varying doses should yield uniformly good results. However, in measles and in septicemia, there have been failures so constantly that we recognize the inapplicability of the calcium sulphide in those particular infections.

Next comes pilocarpine. From a quarter century of practical success, we look upon this alkaloid as a practical specific in sthenic erysipelas. Then, pilocarpine was recommended for syphilis and for other infections. It had been observed that a very pronounced leukocytosis followed its use—and it may, indeed, be that to this we must ascribe its remarkable effects in a measure.

Be this as it may, there is scarcely an instance in medicine of such control being exerted over an infectious disease as does pilocarpine over sthenic erysipelas. Not even quinine in malaria equals it. If this action be owing to leukocytic reinforcement, may not nuclein be of value also?

Vaughan found that nuclein increased the number and activity of the leukocytes, and, accepting Metchnikoff's theory of phagocytosis, this would point to nuclein as of value in many infections. The main obstacle to its popularization is, that its immediate effects are not readily estimated unless repeated blood-counts are made.

In conclusion, the treatment of infectious maladies may be summed up tersely as follows:

1. Put the hygiene of the body and surroundings in as near perfect order as possible; for it has been proved abundantly that the severity of the attack has a more or less direct ratio to the faults in sanitation.
2. Clear out the bowels and as nearly as possible disinfect them.
3. See to it that the organs of elimination are kept working to their full capacity, free and unimpeded.
4. Regulate the nutrition by the patient's needs and not according to his digestive capacity.
5. Utilize the specific, if one be known.
6. Saturate with the sulphides or nuclein, or with both.
7. Treat the symptoms as they turn up, seeking to restore and maintain physiologic balance.
8. Foresee and provide against coming perils, such as the cardiac sequels of rheumatism, the paralysis of diphtheria, heart failure in pneumonia, and the like.

A keen west wind from the hills away.
A rustle of curled brown leaves,
A blazon of colors—O, autumn day,
How memory subtly weaves
Into your scents and leaf-lit fires
Hopes and dreamings and dead desires.
—Richard Burton.

DUST TO DUST

The weekly bulletin of the New York Health Department for September 18 contains a report upon some exceedingly interesting researches into the composition of street-dust, samples of which were taken from several localities and under varying conditions. "The flora found," we are told, "was too complex to lend itself to superficial analysis; however, the organisms developing were chiefly proteus- and colon-bacilli, molds, the bacillus subtilis, streptococci (both green and hemolyzing), and staphylococci. Colonies that were, probably, of the bacillus pyocyaneus and of bacillus prodigiosus were also noted." More organisms were found—four times more, in fact—in shaded localities than in the direct sunlight.

Apart from the irritation produced mechanically by the inhaled dust, it is readily seen that much local infection of the upper air-passages may be ascribed to organisms contained in the street-dust. Fruit displayed

on street-stands is now to some extent protected, although we have yet to see screens that are ideally effective in this respect. Thick deposits of this germ-laden dust are to be found on these fruits, especially on the downy skins of peaches; the apples generally are cleaner, thanks to vigorous polishing on the seat-area of the dealer's nether garments or his white-dotted red handkerchief, applied in the intervals between customers' visits.

One should make it a rule to eat no street-vender's fruit until it has been properly cleansed; and an effective (yet, economical) method of antiseptic dry-cleaning that would not impart a chemical flavor to the delicacy would be a desideratum. The same should apply to the vegetables displayed in front of grocers' stores. The housewife can not be "too particular" in her treatment of such articles. The fact that much of the flavor of fruits is lost with the skin prevents most people from removing this infected integument, and this points to the desirability of a harmless, yet, effective, method of treatment. Were the fear of Wiley not upon us, we might suggest a solution of benzoic or salicylic acid, applied with a towel dampened with the solution.

Two things seem desirable, namely, that the family physician appreciate the importance of this matter, and that he busy himself with instructing his people upon it. Were such duties generally recognized and fulfilled, we should hear less of the "passing of the doctor."

One of our daily papers remarks that German generals have done more than a whole volume of medical essays to disprove the Oslerian theory that old men are of no special value in the world.

THE PSYCHIC ELEMENT IN TWILIGHT SLEEP

We just have received a very interesting communication from Miss Mary Boyd, one of the joint authors of the article on twilight sleep that originally appeared in *McClure's Magazine* some months ago, and which has been quoted and discussed and criticized and elaborated upon from Maine to California ever since; also, who is one of the joint authors of the book on the subject recently published. Miss Boyd says:

"In a recent issue of THE AMERICAN JOURNAL OF CLINICAL MEDICINE, in commenting on the reaction of the medical profession to the lay twilight-sleep propaganda, you use the term 'psychic anesthesia.' Can you let me know how this term originated, and also refer me to some published articles or books on the subject of alkaloidal anesthesia and anoci-association, specifically in this aspect of psychic anesthesia? I am very familiar with the literature, in three languages, of this subject, from every other aspect, and it is the psychic side that I wish especially to study."

It was a little difficult to reply to Miss Boyd's inquiry with any satisfactory degree of clearness or decision, because of the unfortunate lack of both these elements in the prevalent conceptions of what constitutes psychic phenomena and psychic effects. Naturally, one must reach some sort of tentative agreement with his interlocutor, as to the definition of psychic, before one can intelligently and intelligibly discuss the application of the term to a given process—to anesthesia, for example.

In the common, lay understanding of the word, a psychic phenomenon is one which is brought about sheerly through the agency of mental processes, either through the mind of the individual himself or by the operation of one mind upon another. To the layman, a psychic impression is synonymous with a more or less deceptive play upon the imagination, leading the subject to believe that certain things are so which, in reality, are not so, and thus producing upon him the same effect as though they were actually as he imagines. To the more highly trained layman (among whom, of course, we recognize Miss Boyd), it means more than this. While still restricting the term psychic to the sheer operations of the mind, these keener observers understand that the truly useful and scientific employment of "psychic effects" far more often implies just the opposite process, that is to say, the release of the mind from deceptions and delusions and its conversion to a true appreciation of things as they really are.

Both of these views, however, have this in common, that they restrict their conception of the term psychic to sheer operations of the mind, without the direct intervention of any physical agency. They regard psychic impressions, whether they arise in the mind of the subject or are insinuated into his mind by the words or acts of another, as consisting purely in persuading the subject to think that certain things are so. And even from this viewpoint there is much to be said upon the psychic element in anesthesia, as we shall presently indicate.

But to the medical scientist, there is still a broader and more liberal significance in

the term, and it was this that we had in mind, in our use of the term "psychic anesthesia," in the editorial to which Miss Boyd refers.

Our meaning was, to call attention to the different modes of action of the various anesthetic agents. Broadly speaking, these fall into two classes: those which act upon the immediate sensory tracts, and those which act upon the more subtle psychic areas of the brain. We are well aware that this distinction cannot be pressed too closely; that, in fact, the sensory and psychic factors are mixed up in *every* mode and form of anesthesia; still, in certain methods, one or the other factor predominates to such an extent that, for all practical purposes, they can be regarded as being sensory and psychic, respectively.

If, for example, we render the sensory function of the tissues so inactive by the local use of cocaine so that no sensory current is carried to the brain, the painlessness thus induced can not, in ordinary parlance, be called a psychic phenomenon. It is sheerly a blocking of the sensory tracts, and all the psychic activities of the brain pursue their normal course while the painless violation of the tissues goes on. But, if, on the other hand, the paths of the sensory impulses to the brain are left unimpaired, so that sensory impulses flow in unhindered and actually register themselves in the cortex, but the complex associative functions of the brain—the socalled psychic areas—are so dissociated or perverted that there is no recognition or memory of the painful stimuli, then we are justified in calling that type of anesthesia distinctively psychic.

It is to this class of anesthetics, principally, that twilight-sleep belongs. It is not, primarily, an analgesic, but an amnesic. To be sure, it is both. But the purely analgesic —the pain-extinction—effect of the scopolamine and morphine would not, of itself, suffice, by a long way, to afford the relief from suffering that the twilight-sleep yields.

It is the amnesic influence of both the alkaloids, and especially of the scopolamine, to which is superadded the sensory modification of the morphine, that attains the really wonderful effect. And this is what we had immediately in mind when we used the term "psychic anesthesia."

To this, however, must be added the purely psychic effect, in the ordinary sense of the term. The truth is, the sheerly physical pain of childbirth, in the average woman, is not so intolerable as is generally supposed. A large proportion of the agony is psychic —real enough, and even more distressing, no doubt, than physical pain—but, still, psychic.

Indeed, we are here face to face with an exceedingly profound psycho-physiological problem, as to how great a part the human psyche plays in *all* suffering, and in all therapy, too. Certain it is that the suggestion and *entourage* of calm and painlessness attendant upon the twilight sleep play no small part in its efficiency; and this phase of the psychic element will be greatly enhanced by the publicity recently given to the whole subject.

As Miss Boyd very pertinently remarks, the literature upon this aspect of the subject is surprisingly scarce. It is a side of the matter upon which a great deal of interesting and valuable data might be collated and many equally interesting and valuable conclusions reached.

Before closing, we cannot deny ourselves the gratification of quoting the concluding paragraph of Miss Boyd's letter:

"I assure you that I appreciate the struggle that your journal has put up for more than twenty years for the wider use of alkaloidal anesthesia in surgery and childbirth."

Give me not scenes more charming; give me eyes
To see the beauty that around me lies;
To read the trail of souls, see angels shy
Among the faces of the passers-by.
I do not ask for sweeter music than
The common, daily symphony of man,
Could I but grasp its counterpoint, and see
How each discord melts toward harmony.
—Frank Crane.

"SOME NATIVE REMEDIES WORTH TRYING"

In an article printed elsewhere in this number, Doctor Smith takes us straightly to task for an editorial, in our April issue, bearing the above caption. This article is well worth reading and studying. Doctor Smith presents the cause of separatist Eclecticism with vigor and truth—from his standpoint; and from his stand many of his strictures on our editorial may be admitted to be merited. But one must, in justice to ourselves, take that utterance as seen from our standpoint. And this is that of a "regular," who warns his "regular" brethren that they should not assume the attitude taken by all too many "authorities" toward the Eclectics, as being illiterate pretenders, whose publications do not merit any consideration whatever. We mildly insinuated that even our own men might find some stray bits of valuable grain

among the mass of what too many deem mere trash.

Quite naturally, Doctor Smith has taken this as our own attitude, failing to read between the lines and to appreciate the audience we were addressing. If he were talking to a meeting of union laborers on the trades-union question, he might possibly draw his remarks a little milder than if he were talking to the Employers' League on the same topic.

Let us take up some points in Doctor Smith's paper that seem to call for comment.

1. While Eclecticism may have begun with Beach, it never will escape the association, in the popular mind, with Thomson and his immediate followers; and it was to them that the writer of the editorial in question referred. Since it was they who initiated the movement that eventually resulted in the foundation of Eclecticism, it is quite fair to speak of them in that way. When restricting the term to the school of practice founded by Beach, Doctor Smith's protest is justified, of course.

2. "Regular!" Surely, this designation is as a red rag to a bull. But what would you have? The designation "Allopathist" conveys a false idea and is misleading. It was invented and applied by Homeopathists and designed to commit us to a creed we never adopted, namely, that of employing remedies that exerted an action contrary to the symptoms induced by the disease, whereas they themselves employed agents that produced symptoms similar to those of the disease. We have never accepted the name "Allopathist," because it does not fit. In truth we have always denied that we had any leading principle of therapy such as Homeopathists adhere to. This writer has as much use for a separatist designation as for a hyphenated American. Doctor, Unlimited, is our only correct designation.

The word "regular" is a slap at all the others, if it is so meant; but here, we must admit, it was carelessly used, for want of a better term. Most assuredly we have absolutely no aspersions to cast upon our brethren of any regular school, and by that term we now mean any class of practitioners who meet the legal requirements of the state boards, regardless of whether they call themselves Homeopathists, Eclectics or any other thing. We are first and last advocates of personal freedom and of the individual rights of every citizen as to belief and practice; and when we favor, as we do, the dropping of sectarian designations, it is because we see no reason for them; since any respectable practitioner may believe and practice as he sees fit and, yet, belong to every medical association in the United States he may wish to join. More than this, we see that the need for separatism has passed and that the departments of medicine which these men have cultivated and the tenets they have evolved should be pushed in the general assemblies. The cause of specific diagnosis and practice is hindered by separatism, since it is, perforce, looked upon as a sectarian tenet.

The Eclectic should come into the general meetings and there present and defend his peculiar views, the same as any other medical man. If he is not strong enough in his position to do this, he is giving up the fight without a trial. It is no way to win a war by sitting safely in the fortress and leaving the open country beyond the walls to the enemy.

3. Certainly, since Bartholow, many writers on therapeutics have discussed remedies used and introduced by the Eclectics; it is a mistake, though, to assume that all they say is taken from these sources. Our own advocacy of the treatment of disordered function by means of remedies that restore physiologic equilibrium has been based upon our own clinical studies and was adopted years before we found that the Eclectics had taken similar ground. A suggestion here—the Eclectics of yesterday are not any more ignored than the—unlimited doctors of the same period. Mighty little is taken into account now of that which originated more than twenty years ago. Who now quotes Trousseau, Niemeyer, Da Costa, Ringer, Waring, Gubler, Wood, Bartholow, Fothergill, Richardson, Stillé, Pepper, or any of the celebrities of the last century?

4. We think so, too.

5. This statement may be modified in accord with the facts, as related to each individual. The advances of therapeutics made in many departments have been by the unlimited men, and of these some have been taken up by the Eclectics; but the original work of the latter seems to have been mainly along the lines of the native vegetable remedies. Is that clear and satisfactory? It is a matter of small importance, anyway.

6. This should have read, "the group of men of whom Lloyd is the best-known to the unlimited profession."

7. This is largely answered above. By the passing of Eclecticism, we meant, of course, as a separate school or sect. The

principles elaborated by these men will live or die, according to their merits. The objections to the evidence proffered by them as to the merits of many of their remedies applies equally to those presented by other schools, including the unlimiteds. We can not, today, ignore the laboratory, and more than that, we insist that the laboratory must not ignore the clinician. The whole materia medica, unlimited, Eclectic and Homeopathic, must be restudied with the aid of modern methods before we see a return to drugs by the profession or the people. The sooner we quit snapping at each other over bygone issues and obsolete quarrels, the better for all of us.

8. Why should these men thus renounce their own beliefs and the valuable part of their knowledge? Let them come with heads erect, frankly stating that they are among us to learn, and also have something of their own to return to the general mass of the profession. This writer, were he an Eclectic, would not feel any sense of inferiority, nor any obligation, to deny his previous affiliations or beliefs.

The wicked are wicked, no doubt, and they go astray and they fall, and they come by their deserts; but who can tell the mischief which the very virtuous do.

—William M. Thackeray.

EXPLAINING THE UNACCOUNTABLE

It is a little late in the day to offer editorial comment upon an article that appeared in the September number of CLINICAL MEDICINE; but even medical editors take vacations when they can get them, and it happened that this editor was taking his at the time Dr. Edwin F. Bowers' article on "Explaining the Unaccountable" was published. He has been promising himself ever since that he would seize the first opportunity to make a few remarks about it, and here they are. Better late than never.

Doctor Bowers propounds some pretty large questions in his interesting paper. Indeed, he propounds the question of questions, which philosophers in all time have sought to answer—the solution of which, in fact, is the demonstrandum of philosophy itself—the question of an "ultimate cause" of which all known phenomena may be shown to be effects.

From Aristotle to the eighth Duke of Argyll, there has been a persistent attempt on the part of world philosophers to reduce the universe to a state of intelligible orderliness by the demonstration of what is commonly called a "natural law" running through the whole; and this, of course, implies, not necessarily the definition or description, but at least the establishment of one ultimate phenomenon, of which all the known phenomena of the universe, which appear so diverse, are mere variations. Bergson has recently made a still more modern contribution to the attempt by the postulation of his *elan*, or life-impulse.

There is, of course, no fundamental difference between the "final cause" of Aristotle and the *elan* of Bergson; and Doctor Bowers evidently accepts the concept underlying both these terms, without attempting to define them any further. What he undertakes to do is to show that the working method, so to speak, of the life-impulse is the same, all through mind and matter; that this working method is vibration; and that the numerous epiphenomena of the universe (i. e. the effects of phenomena upon our senses) are due to differences in the rate of vibration which they represent. While we understand this theorem of Doctor Bowers' to be a universal one, which he extends to *all* phenomena of life and death, he has, in the article published in CLINICAL MEDICINE, naturally made a more or less specialized application of it to the phenomena of physiology and pathology with which the physician has to deal. In brief, health of body or mind consists in a maintenance of cell-vibrations within the normal, inherent limits of the cell-electrons; disease and death represent either a falling below or a transcending of those normal, inherent limits.

What we wish to point out, especially, in this editorial is, that the theorem is not the wild, chimerical fantasy of an erratic brain whose own vibrations are exceeding the speed limit. Doctor Bowers has sober, scientific ground for his postulate. It is, in fact, the logical application of the modern demonstrations of natural science to philosophy—which means an inductive, instead of a deductive, philosophy of life. And if it appears, at first, that his explanation of the "unaccountable" is purely an abstract one, with no practical working value, we must bear in mind that philosophic hypotheses, *if they be sound*, are invariably and inevitably the precursors of practical working methods.

It is, indeed, time that our concepts and our methods of investigation of diseases and therapy were made to square more thoroughly with the recent developments of natural science. The radical and revolutionary

changes that have taken place within the past twenty years in our conceptions of physical and chemical processes, as a result of the work of such men as van t'Hoff in surface tensions, J. J. Thompson, and others, in the electron doctrine of the elements, calls for an equally radical and profound modification of our study of therapeutic agents and their action. The theory postulated by Doctor Bowers may yet prove the key to the practical solution of many heretofore obscure problems in pathology and in therapy.

Who always knows the antidote?
The doctor.
Who is the universal goat?
The doctor.
Who's asked to straighten out your kinks?
Who knows your faults and slyly winks,
Taking your blame when you take drinks?
The doctor.

—William F. Kirk.

WHAT THE DRUGGISTS THINK OF DISPENSING DOCTORS

First let us hear from the *N. A. R. D. Journal*, which, in one of its recent issues, hands the following bouquet to the dispensing doctor:

"When one considers the cheap and worthless drugs, the hard, insoluble tablets and the general secret medicines handed out by thousands of dispensing doctors, who know little or nothing of what they are giving and who are immune *by law* from inspection, and the dire results such medication *must* have upon disease, then the Eastland disaster fades into almost utter insignificance."

The following comment upon the preceding, written by Editor Robinson of *The Critic and Guide*, pretty nearly sums up the situation:

"Which, with all due respect, is piffle and rot. I am not a dispensing physician, but such attacks upon dispensing doctors are stupid, and act as a boomerang. Do the high-class manufacturing houses have two different grades of goods, one for the druggist and one for the physician? When a physician orders his supplies from Parke Davis & Co., Mulford & Co., The Abbott Laboratories, and other like firms, does he get "cheap and worthless drugs, hard, insoluble tablets and secret medicines?" Doesn't he get exactly the same quality as the pharmacist does? Isn't it a fact, where there are two or three different grades, the pharmacist often is apt to get the cheaper grade? And, why do doctors know little or nothing of what they are giving? If they know what they prescribe, why do they not know what they give? Is it so hard to count out a dozen pills, tablets or capsules? And, does it require such great technical skill to measure out 4 ounces of a scientifically prepared cough-mixture or mistura rhei et sodæ?

"I am not advocating dispensing by physicians, as a general thing. But, if a fight is to be made upon dispensing by physicians, it is to be done in a square, straightforward manner, and not by silly slanders and stupid lies.

"The slander about the doctor dispensing worthless drugs should be buried forever, so deeply buried that it may never raise its head again. For, it stands to reason that the doctor who wants *results* from his treatment is more *personally* interested in the quality of his drugs than the pharmacist is. If he doesn't want results, he doesn't have to dispense anything. He can give colored water as a placebo."

The simple truth of the matter is, that the druggists who are attacking the dispensing doctor are not particularly concerned about the welfare of the "dear people." It is the welfare of their own pocketbooks they are thinking about—and nothing else. If only they would have the honesty to come out into the open and tell the exact truth, we should respect them a good deal more.

The hypocritical assumption, that the retail druggists are wiser, better, more careful, more skilful, more thoughtful, more humanitarian, more everything that is good than is the dispensing doctor, is both disgusting and absurd.

THE AMERICAN OR THE EUROPEAN IDEAL—WHICH IS HIGHER?

As the child looks up to its parent, so we of the United States have looked up to the East. Europe's literature, her traditions, her monuments, her civilization have been the ideals toward which we have struggled, without higher hopes than of a more or less distant approximation. An "imported" article has commanded respect as a standard. Claims for equality, or even more, for a domestic product have been accepted as the vaporings of enthusiastic patriotism.

With this view Europe fully concurred: America was peopled by an inferior race, whose achievements were really quite creditable to a mongrel race derived from the runaways, the outcasts, the down-and-outs squeezed out of the Old-World countries.

Yet, there were not wanting evidences to show the fallacy of such views, the futility of Europe's assumption of superior culture. From all parts of her domain, there flocked to our shores multitudes of human beings, crude, undeveloped, mere material out of which Americans might in turn be made. One of the most edifying spectacles has been the mental development of many of these people after some years of residence here. The captain of an emigrant vessel once told the writer that many of these people brought their own food for the voyage, although they had paid for the ship's fare, and that of the latter nothing was too bad to be accepted by them; "but," continued the captain, "when they have been in America a few years and return to the old country—look out! they know and demand their rights!"

But, many of these products of Europe's social system are incapable of development. How often we have heard their children say to us: "It's no use, doctor, they are old-country people and you can't do anything with them." But the children! Bright little lads and blithe lasses, they show what the Caucasian can become when he has the chance.

It takes America to give him the chance.

The great war has shattered the card-house of European preeminence and dissipated these illusions. It has been a common custom over there to compare Americans with pigs and to charge us with the exclusive worship of the almighty dollar. Look at the matter now, and it may be seen that Europe's ideal is the warrior, who by force of arms dominates his neighbors, imposes his rule upon them and seizes the product of their labor. The American ideal is peaceful industry—productive work, of which the Dollar is merely the symbol.

True?

Just imagine any American suggesting, that we should annex Canada, Mexico, Cuba, Hayti, merely because we have the power! What would be thought of any politician or party that would make such a robbery—meaning conquest—a plan in the platform?

Now, if such conditions presented themselves in Europe, what would be the result? Let Poland, Belgium, Finland, Schleswig-Holstein, Nice, Savoy, Alsace-Lorraine, Ireland, Tripoli, Tunis, Bosnia reply. Compare the lines of fortresses, guarding the European frontiers, with the ships, guns, and men with which Canada lines the southern bounds of her Dominion, and tell us which is the safer against aggression, and why. If our borderline of more than three thousand miles has not a soldier, not a gun, not a ship on guard against aggression, does it not show that the moral sentiment of peoples who respect the rights of weaker neighbors is a higher development than is the construction of 42-centimeter guns?

The question is, what is the effect of the stasis on the bacteria, and, vice versa, of the bacterial toxins on the stasis? That between them exists a vicious circle has repeatedly been proven. Stasis causes bacterial poisons to be formed; these poisons, again, have a paralyzing effect upon the intestines, and in this way add to the stasis.—E. von Ofenheim.

THE NEW BASIS OF DRUG-THERAPY

How very slowly and ponderously the medical mind doth move! Our views, our theories are rooted deep as the everlasting hills. Only by slow attrition are the old beliefs worn away, and the evershifting sands of the wind-blown dunes may fitly represent the upbuilding of new systems.

The ancient, inherited use of drugs depended upon the belief merely that they cured disease. Nothing more was known of their action, except that, when they were administered to the sick, they got well. How these drugs acted, why they cured, what they really did to the diseased body, was absolutely unknown. The choice and applications of our remedies, with few exceptions, were wholly empirical; and we gave copaiba for gonorrhea, quinine for ague, mercury for syphilis, and so down the materia medica without knowing or, in truth, caring much just what caused the disease or how the drug cured it.

The microscope and the physiologic chemist have opened our eyes to the nature and causation of many maladies; and with this new light there has come a realization that our old faith in drugs was misplaced. We now know that drugs do not cure disease. But, here the bulk of the medical profession stops—doctors drop the drugs. The next step is open to us—and obvious, but we do not take it, by seeking to ascertain what, then, drugs really do. That they do do something, is evident; and we should study what this may be and how it may be intelligently utilized in the treatment of disease. However, we have not taken this step yet, as a profession, although some individuals have made interesting and profitable investigations.

The fundamental error, then, was, the conception of disease as a pathologic entity, for which the drug was a specific. We now

know that few affections are so very simple, but that, rather, most of them are compound results of varying factors. Pulmonary tuberculosis, for example, is not solely of a tuberculous nature, but a compound infection involving now one and now another group of allied organisms, the tubercle-bacillus being the one constant element.

The next error, and one far-reaching in its disastrous effects, was, the contempt with which we viewed affections denominated "functional." Nothing in which a material lesion could not be demonstrated merited our attention. Yet, we had, perforce, to acknowledge that against material lesions we were powerless, and that by no known process could we influence the restoration of a cell that had died. All that seemed left to us was, the removal of the debris, lopping off dead limbs from the parent stem.

Yet, everybody knows that functional disorder has its meaning and its causes and that it generally precedes the development of those material lesions that we have learned to associate with given typical diseases. We may state as a generally admitted truth that, if the art of the physician suffices to cure disease, it must have been exerted during this functional period and before destruction of tissue elements has occurred. It, therefore, is of the utmost importance that we study these functional aberrations and learn to associate them with those maladies of which they form the first stages.

More than this, we should recognize the fact that drugs have the power of influencing disordered function, and it is here that the true application of the materia medica is to be made. We find that drugs possess definite influence, not over the groupages of symptoms we denominate essential diseases, but over the various physiologic functions. We thus separate diseases into their pathologic factors, and by attacking these we conquer our enemies in detail.

We *are* learning. We do not all of us attempt to treat local maladies merely by making local applications, but we seek first to remove the fecal strain, of which the local malady is but the manifestation, at the point of lowest vital resistance, of the general toxemia. We destroy hemic parasites of the animal order by administering arsenic; the amebas, by means of emetine; the spirochetes, with mercury—regardless of the local outbreaks. Some of us believe we can restore the contractility of relaxed connective tissue by feeding berberine, and prescribe this alkaloid whenever this relaxation constitutes a factor in any malady. Some of us also think that we can combat any degeneration at the root of a nerve, when manifested by local lesions in the peripheral distribution of that nerve, by administering zinc phosphide. Anywhere from head to foot herpes zoster gives way promptly to this remedy.

Instead of having exhausted our drug therapy we have scarcely made a beginning at developing its possibilities. We now for the first time have a sure basis from which to work. We know something of the causes of disease. We know something of the physiologic workings of the bodily functions in health and in disease. We have at our command a wealth of resources with which to influence these bodily functions, but much of it is as yet uncertain, crude, badly observed and undigested. Many old errors have been suffered to get into our records and have been transmitted from generation to generation, because nobody has taken the pains to verify or disprove them by experimentation under modern scientific conditions. There is, therefore, much work to be done before drug therapeutics takes her place as one of the exact sciences. Yet, the possibility lies before us —and what a wealth of riches it proffers!

The true way to conquer circumstances is to be a greater circumstance yourself.—Old Saying.

"WATCHFUL WAITING"

The human mind has its limitations, and these sometimes seem distressingly close. Progress being favored by concentrating the energies upon one object, when that has been attained, it seems isolated. The correlation of such a detached fact with its surroundings remains to be established.

It is hard to wait, to be patient while the glacial progress continues, when human lives are failing for the want of what seems to us obvious and readily attainable. Modern science has furnished us real arms of precision in the diagnosing of many maladies. We no longer have to rely upon more or less accurate guessing, to decide whether our patient has syphilis, malaria, tuberculosis, typhoid fever or a fecal toxemia; but, we say, what boots all this if you do not furnish us the arms of precision with which to remedy the conditions recognized?

That there are such weapons, some of us know. We know that these weapons have been produced by the chemist, isolated from remedial plants, and presented to us in such purity that every dose of a given drug exerts

exactly the same power as does every other dose of the same size, when administered under the same conditions. We know that these remedies have been studied by our leading experts, through laboratory tests, animal-experimentation, and in other ways, and their findings have been confirmed by ample clinical applications. Physiology and pathology have progressed, until now we are enabled to place our finger upon the spot where originates any disorder of bodily function; and we have at hand the therapeutic means of removing the causes of disease and correcting the disordered function. Yet—the world waits, the profession lags.

Along about the late seventies, the modern germ-theory was launched. We looked upon it with distrust. We grudgingly admitted that there "might be something in it," but, then, those "crazy enthusiasts" ruined their own argument by "preposterous claims." Why, Laplace said that the cause of irritation must be a living or a chemical irritant! Today, the claims of those enthusiasts seem curiously timid. The germ-theory long ago ceased to be a theory; it has become a fact, solidly established. One forgets that it ever was questioned. Moreover, that theory has opened up a new therapeutic mine, in which we are digging so absorbedly that we have nor eyes nor ears nor thought for aught else. Not until the serum-, vaccine-, opsonin-, bacterin- and allied therapies have been exhausted, shall we have attention to give other fields. This seems to be the present attitude.

Patience! Wait watchfully, meanwhile perfecting our study of the active principles, adapting them to every newly discovered fact in pathology, confirming, correcting, expanding, delimiting the place of each alkaloid. In so doing, we shall help to usher in the new era.

ANTITYPHOID VACCINATION IN FRANCE

Stung by the vigorous attacks upon his method of vaccination against typhoid fever, Prof. H. Vincent replies with equal vigor through the columns of *Le Monde Medical.*

Since Vincent began the use of antityphoid vaccine, 231,462 persons have received this treatment. Before long the number will equal that of those who have received treatment with the heated and cresolated vaccine. Vincent's statistics are based upon official reports made by the French army surgeons, and by others. Many epidemics among the civil population likewise have been quelled. More than 1000 physicians, prefects, mayors, bureaus of hygiene, hospital establishments, and so on, have had recourse to this vaccine; and in a great number of French communities, and in many foreign countries, on the occasion of severe epidemics, this vaccine has conferred an absolute immunity upon those who submitted themselves to being inoculated.

At Saintes, on January 20, 681 men were vaccinated. The cure was rudely tested in epidemics of grave rubeola and even of cerebrospinal meningitis, but no accident followed the vaccinations.

As to tuberculous subjects, experience showed that, instead of awaking or aggravating this malady, the antityphoid vaccination was followed by an improvement of health and an increase of weight, many times considerable. So, also, with children. During the month following the inoculation they grew and their physical development increased. In three cases of tuberculosis, with continuous fever simulating typhoid, defervescence took place within thirty-six hours after the vaccination.

Reports from many armies which have employed the typhoid vaccine show that febrile reaction follows its application in 1 to 1 1-2 percent. This occurs mostly in soldiers after long marches, when fatigued, suffering, tuberculous, malarious, or incubating some infection. Rest and a dose of antipyrin suffice to quell the fever. Ordinarily, troops on the road may be vaccinated without interrupting the march. These febrile cases are infinitely rarer than among children subjected to vaccination against smallpox. That more than 900,000 vaccinations with this vaccine have been made, shows how easily its use may be extended among the people.

WHY NOT THE SYRINGE?

There seems to be, for some reason or other, not only a general disinclination among practitioners to employ the hypodermic route in the administration of remedies, but, rather, an eagerness to avoid it and to adhere to the old-fashioned way of giving them by mouth, even at the expense of effectiveness. This is, indeed, no conjecture on our part, for we are plainly told so, over and over again, by our correspondents. When we recommend, either through these pages or in personal correspondence, certain remedies to be administered hypodermically, we are cer-

tain to receive objections from a goodly proportion, at the same time being asked whether there is not a preparation of the remedy that can be given by the mouth.

What is the explanation of this attitude toward hypodermic medication? Why does the physician so commonly object to administering medicine in this way? Is it sheerly because of the comparative novelty of the method—novelty, we mean, of course, so far as its employment as a general procedure is concerned? Is it simply that the doctor has been accustomed to regard the hypodermic syringe as an emergency-agent and finds it difficult to bring himself to use it as an agent of choice? If so, that hardly is sufficient justification for refusing to employ it when it *is* the method of choice. Many procedures which in former days were regarded as emergency-measures have become, in these latter days of improved knowledge and technic, deliberate measures of choice.

Or, is it that the physician entertains some vague misgivings concerning the possible risks of administering a drug under the skin or, perhaps, has some genuine scruple, on what seem to him to be real grounds?

Personally, we do not see what valid indictment can be brought against the hypodermic procedure, provided, of course, that the drug be one which lends itself to this mode of administration and that the preparation be suitable for it. And, if any practitioner thinks that he has a genuine cause for quarrel with it, we are sure that a little investigation of the matter will convince him that his objections are unfounded.

Possibly the reason is to be sought in the attitude of the patient, rather than in that of the doctor. It may be that the physician finds it a little difficult, especially in the rural communities, where people have not yet been educated to it, to persuade his patients to submit to hypodermic injections, principally because they, too, have been accustomed to associate the needle with unpleasant contingencies. But this, again, hardly is justification enough for the nonuse of the method whenever it is indicated. It is the business of the physician to educate the public to the acceptance of those measures which the progress of his science is developing for their best interests.

Suppose the patient *is* disposed to shrink from the hypodermic syringe; so he or she may also be inclined to balk at many modern procedures, which are, nevertheless, necessary and beneficial. Most women will shrink from a physical examination; but no conscientious physician will, for that reason, attempt a pelvic diagnosis without making an examination. Indeed, the doctor has educated the female contingent of his clientele to the point where almost every woman who seeks relief for pelvic troubles expects a physical examination. He must do the same thing, then, with respect to every necessary procedure. Certainly, he must not allow himself to be governed by the patient's unreasoning sensibilities and obsessions.

As a matter of fact, the hypodermic method, in our opinion, is absolutely the method of choice; that is to say, the most desirable method to employ whenever it can be employed; and almost all patients who become accustomed to it soon prefer it. The very negligible discomfort that attends its performance is not to be compared with the disturbances which often accompany the introduction of the remedy into the gastrointestinal tract. But we do not go so far as to urge its employment on that broad basis; and, of course, there are many remedies as well as many therapeutic purposes that do not admit of hypodermic administration.

The point is, that with certain remedies the hypodermic route is so much more effective and successful than that by mouth that it is the physician's duty to resort to it, unless the patient absolutely declines it against the doctor's emphatic advice; and it is this point that we wish to urge.

Emetine is a conspicuous example. One of the prime therapeutic advantages of emetine is, that by the hypodermic method we can give a sufficient dose of the actual amebicidal principle without causing the gastrointestinal disturbances of the drug. Yet, there is a general disposition among physicians, and still more general among dentists, to beat all around the bush in an attempt to evade the hypodermic administration of emetine. We have tried to suggest some possible reasons for this attitude. Perhaps we have not succeeded in hitting upon the real explanation. But, whatever the reason, or reasons, may be, none of them, nor all of them together, ought to weigh with the conscientious physician against the advantages of the method whenever those advantages are undoubted.

Leading Articles

Gastritis, and Its Management

By A. L. Benedict, A. M., M. D., Buffalo, New York

WITHOUT venturing to enter into a critical study of the pathology of gastritis or to discuss the appropriateness of the synonym gastric catarrh, it may be pointed out, that the socalled mucosa is thicker than for most organs having an epithelial surface indirectly communicating with the outer world, and that it consists largely of glandular elements of specific secretory function, so that it may properly be considered as the parenchyma of the stomach. Consequently, inflammatory lesions of the stomach lining must be conceived of as combining the factors illustrated by bronchitis, on the one hand, and by nephritis, on the other.

Acute Gastritis

Acute gastritis should best be limited to the effects of corrosive poisoning, concentrated alcohol, extreme degrees of heat, and such like. The stages of acute hyperemia and cloudy swelling are rapidly passed and frequently the strictly inflammatory stage is superseded by ulceration and necrosis of greater or less degree.

While for the most part such conditions are attended by pain, vomiting, and more or less general febrile reaction, and while, furthermore, the direct evidences of irritation and secretion of mucus, shedding of epithelium, abatement of specific secretion, hemorrhage, and so on, may be found in the stomach contents and feces, it must be confessed that the diagnosis rests largely upon induction from cases previously studied at necropsy or at operation, as well as upon the knowledge of an adequate cause.

Both diagnosis and the conception of the pathology are complicated by the fact that the large size of the stomach as well as the differences in accessibility of different portions render it possible for the condition to vary from almost the normal to the most disastrous ultimate stages of the inflammatory and corrosive process. Even in health—at least considered from the practical standpoint—there may be mucous secretion in considerable amount from some small area subjected to very trivial irritation; there is always more or less shedding of epithelium; often from vomiting alone, some hemorrhage; and from some sharp food ingredient or the scraping of the eye of the stomach-tube or forcible aspiration, even relatively deep glandular elements may be brought to view. Conversely, with a degree of parenchymatous inflammation sufficient to put a stop to the glandular function in any organ, some portion of the stomach may furnish more or less active secretion.

Without discussing *the treatment* from the toxicologic standpoint or from that of the general systemic shock received, let us start with the indications after the emergency has passed.

For a week or so, the stomach should be at rest as much as possible. For a day or two at least it is unnecessary to nourish, and, moreover, desirable to leave the intestinal evacuations as little affected as possible by any factor aside from the gastric lesion, so that the feces may be examined for diagnostic and prognostic purposes. Water may be given by hypodermoclysis, enteroclysis or, often, even by the stomach; for, unless there is danger of perforation, there is a positive indication to have lavage to this degree. Later, nutrient enemata, oil inunctions, and hypodermoclysis with dextrose-salt solutions may be employed.

Local sedation and healing of the lesion may be attempted along several lines. Somewhat analogous to dry dressings are bismuth subcarbonate, kaolin, and charcoal, the last-named being somewhat detoxicating. Owing to the susceptibility of the inflamed stomach to all forms of irritation, care should be taken to secure preparations chemically pure and of a high degree of mechanic subdivision.

Inflamed surfaces are commonly regarded as giving off an acid and acrid secretion. The writer is somewhat skeptic as to the former quality in general, although, for the stomach, the specific hydrochloric-acid secretion should be kept in abeyance; hence, magnesia and lime-water are indicated, according to the state existing or desired for the bowels. Mucilaginous and gelatinous mixtures are advised for their soothing effect. Gelatin is especially indicated if there is hemorrhage; still, there is some danger of exciting secretory activity by such demulcents. Pure mineral oil is, perhaps, the least prone to excite secretion, is the best vehicle for the powders mentioned, and, as it is absolutely indigestible and aseptic if not antiseptic, it is the preferable soothing application. Local anesthetics may be resorted to as indicated; with due reference, of course, to dosage. It is questionable whether ice is of value. As ordinarily administered, in small bits, the ice becomes luke-warm water almost as soon as the stomach is reached—sometimes even before it reaches the stomach at all. If there really is an indication for local cold, it is better to give ice water in 100-cubic-centimeter drafts.

Subacute Gastritis

Subacute gastritis is a term applying to milder lesions resulting from the same poisons mentioned under acute gastritis when taken in diluted form, from alcohol, and from ingesta irritating by reason of alternations of heat and cold, the presence of active principles inadequate to produce acute inflammation (such as the volatile oils of spices), microogranisms, and perhaps the general effects of chilling.

Alcoholic gastritis may assume almost the degree of the acuteness of that caused by corrosive poisoning; indeed, there is no sharp line of demarcation and no unanimity as to the application of the two terms. Whether gastritis, like coryza and other respiratory catarrhs, occurs as the result of "taking cold" is rather doubtful. On account of the well-known conflict of authority on this point, the writer has tried to secure clinical evidence; however, in view of the functional disturbances liable to follow chill (already discussed) and the difficulty of inferring pathologic conditions from the distress, nausea, vomiting, and evidences of lack of digestion, it has not been possible to collect accurate data.

In particular, it is practically impossible to distinguish accurately the origin of mucus in the stomach contents or vomitus, despite the easy theoretic descriptions of such differences, in regard to the pharynx, esophagus, and stomach. This much may be said, however: in hepatic sclerosis, with resultant chronic gastritis, exacerbations apparently analogous to coryza do occur from chill; and, further, microscopic examination of stomach contents or of the secretion of the jejune stomach, with reference to mucus, cellular detritus, and so on, make it appear that mild grades of gastritis occur quite constantly in various conditions commonly regarded as functional. The hope of connecting such microscopic pictures with definite disturbances of secretion or with organic lesions has not been fulfilled, probably because the ordinary indiscretions of diet produce localized gastritis of mild grade quite regularly, and because the stomach, the same as every other epithelium-lined organ, is constantly shedding degenerated cells, while the lack of regularity in the association of microscopic findings and chemic and motor tests probably is to be explained on the same basis.

The *treatment* of subacute gastritis is along the same lines as that of the acute, but the indications for suspension of gastric feeding rarely are present; and since (with the exception of complicated cases) erosion, hemorrhage, and danger of perforation are excluded, it usually suffices to limit the diet merely to secure a comparatively bland and easily digested mass.

Instead of sedation, as a rule a more or less astringent effect is indicated; so that, although mineral oil and bismuth may be prescribed, menthol also is indicated for stimulating the local circulation, while frequently the bismuth is to be chosen in the form of the subgallate rather than the carbonate.

Organic preparations of silver (in solution) may be employed to wash the jejune stomach, making sure to rid the organ of it so as to prevent any possible danger of argyria. While the tube is in the stomach, the patient should lie in succession on the abdomen, the back, and sides, in order to insure reaching all parts of the viscus. This method is superior to the administration of silver in pills or to the use of other mineral and the various vegetable astringents.

In cases of excess of hydrochloric acid, this hyperchlorhydria should be combated. So, too, organic acid fermentation should be counteracted. Alkalis are also indicated, to reduce even a normal hydrochloric acid secre-

tion if the local condition of the gastric wall overbalances the indication for efficient digestion at the time; and it is even advisable to be cautious about relieving a hypochlorhydria if there is reason to consider it associated with definite gastritis of this grade. The old fashioned administration of lime-water with milk has its obvious rational explanation and should not be forgotten.

Chronic Gastritis

The marked differences between acute (including subacute) and gradually developing chronic inflammation of epithelium-covered surfaces, the question whether the latter is not a degenerative rather than a strictly inflammatory process, and the well-described pathologic details of the latter should be borne in mind.

Yet, when all is said, chronic gastritis is not so easy of exact diagnosis, in the sense of objective demonstration short of direct methods of inspection under the microscope, as is commonly believed. As in the case of the kidney, the degenerative changes theoretically characteristic of epithelium in a state of chronic inflammation are reached, in each individual cell, within a few days. While in the case of the kidney normal exfoliation is so slight in proportion to the total amount of urine as scarcely to be detected in observations of sediment, and, while one may distinguish various characteristics of casts—including their diameter, number of attached cells, and proportionate occurrences of early and late degenerative phenomena—in the stomach contents obtained in the jejune state, similar differences are scarcely conceivable.

While the microscopic appearances are interesting and, from many different standpoints, valuable, they scarcely afford a basis for diagnosis with any degree of certainty, aside from other circumstances, and the problems are so intricate that it is thought best not to enter into them. It is often implied, although no one would so formally state, that the degree and extent of the inflammatory process can be determined from the amount of mucus. Nor, as already has been intimated, can the gastric, pharyngeal or esophageal origin of the mucus always be differentiated. Nevertheless, when the stomach contents and vomitus, especially jejune, contain considerable amounts of mucus which are more or less discrete and not in the characteristic strings of esophageal mucus, we are aided in making the diagnosis of chronic gastritis.

While a gradually developing gastritis, with or without the initiative of an acute or subacute attack, tends to suppress secretion, the latter may persist for a long time, and there may be concomitant factors producing hyperchlorhydria. Whether there is a distinct separation of chronic gastritis into acid and subacid types, except in this sense, the writer has never been able to determine.

One logical, and frequent, cause of chronic gastritis is venous hyperemia due to obstruction of the portal circulation, notably by hepatic sclerosis. Some years ago, the writer propounded to himself the question whether a distinction could be made between this type of backpressure gastritis and other chronic forms resulting from local irritation by ingesta, or the repeated action of other factors, for instance the effect of irritants developed in ingesta by fermentation, the cumulation of "taking cold" in the stomach as a *locus minoris resistentiæ*, and so on.

This question has not been satisfactorily answered, because the same factors tend to produce hepatic sclerosis, which may also, perhaps, be considered an inevitable senile process. It is practically impossible to diagnose incipient hepatic sclerosis with precision, so that, while, on the one hand, there may be grouped many cases of chronic gastritis in which hepatic sclerosis is indubitable, the writer has never been able to collate cases in which hepatic sclerosis could be absolutely excluded. Even necropsy studies do not enable one to answer this question, since a large experience with postmortem material is almost never associated with ample opportunities for studying the clinical aspects of the cases, while, moreover, postmortem changes in the stomach occur with great rapidity. It may also be said that the greater proportion of cases of chronic gastritis are associated with fairly well-marked indications of hepatic sclerosis.

The symptoms of chronic gastritis are not uniform. On the whole, however, there is anorexia; disturbance of secretion; generally hypochlorhydria or achlorhydria; considerable organic fermentation and gas formation; moderate dilatation; diminution of motor power, with, however, relaxation of the pylorus, so that there is stagnation, not of the entire contents, but of residue; considerable shedding of degenerated cells; much mucus; more or less vomiting; emaciation.

It is very easy to make a superficial diagnosis of chronic gastritis. It is very difficult to make an absolutely scientific demonstration of this conception in a given case, and

in particular, to prove an organic lesion as well as that the disorder is not functional. For all that, in the majority of instances, the diagnosis can be made, after a reasonable period of observation, with sufficient accuracy for practical purposes.

Diet demands reasonable supervision, especially with a view to obviating easily avoidable aggravations from irregular meals, overeating, and the like. It is also well to exclude from the dietary everything, beyond a small amount, of a nonnutritious nature, especially such foods as consist of leaves, stalks, and so on. As to proteid, carbohydrate, and fat articles, there is no special indication or contraindication for departing from the average well-balanced dietary; although, of course, actual experience pointing to lack of utilization of any of these groups or disagreement of any special foodstuff must be heeded. The stimulus of heat, tastiness, and special likes constitute a valuable assistant. In severe cases, we must have recourse to milk, eggs, gruels, junket, peptonized milk, and so on, but in cases of average severity the ordinary diet, in discretion, will be best.

Hydrochloric acid is usually indicated, and there is not here, as in the acute and subacute forms, danger of irritation. Whether the stomach becomes capable of secreting the needful acid, or not, is a fairly dependable guide in diagnosis between a functional and an organic condition.

Strychnine is indicated to stimulate the gastric secretion. Artificial digestants are frequently needed to supplement natural digestion, or merely to stimulate it.

Hormone therapy sometimes gives good results—apparently. As this method is in its infancy and involves a choice of commercial preparations, it will not be discussed in detail.

Local treatment of the stomach is along the same lines as laid down for subacute gastritis; but, in addition, the writer has seen considerable benefit from spraying the jejune—clean and, if necessary, washed—stomach with a 5- to 10-percent solution of menthol in pure mineral oil, using an atomizer pump that holds a definite amount of air, say, 100 Cc., and being careful not to overinflate. It is not necessary to use an endogastric atomizer-tip, as the solution forms a heavy spray that not only will carry to the stomach, but may be seen issuing from the mouth and nose after escaping around the stomach-tube. As a rule, not more than 500 Cc. should be introduced at once, and, if the spray does not escape freely around or through the tube, the tube should be moved up or down so as to break through the obstructing water trap in the stomach.

The Letters of Doctor Leonidas Playfair

Addressed to a Young Man Just Entering Practice

By A. H. P. Leff, M. D., Philadelphia, Pennsylvania

[*Continued from October issue, page 942.*]

Consultation-Fees

CONSULTATION-FEES should always be considerably larger than your ordinary fee. For this, there are several reasons, some of which I will mention. First of all, in consultations, more time is consumed. Next, you either are reviewing, or passing judgment upon, another man's work, or this is to be done upon yours. Then, these engagements usually take place at a stipulated time, observance of which generally entails something of a sacrifice. Furthermore, you are consulted after others have failed to give satisfaction, and your opinion would not be sought unless it were valued unusually. Lastly, because the patient expects to pay more, he would not be as well satisfied if you did not make an uncommon charge.

Again, you may be called upon to assist another physician in a difficult case, say, spasms, confinement, or accident, for which service you should also exact more than the usual compensation. Such calls generally come in a hurry; they take you from your other work, without regard to your own wishes or the sacrifices you may have to make; in other words, they are imperative. Moreover, you place yourself in a position subordinate to another physician, who is always your competitor in the public eye, and not your confrere, as he should be considered. This consideration should be reckoned with.

Emergency-Calls

Then there are the socalled emergency-calls. You are requested to go somewhere in the greatest possible hurry, to attend someone not among your patrons, often utter strangers. Here, too, it is customary to exact a double charge. In instances of this kind you will be placed in one of the most delicate and difficult positions in which a physician can find himself. You are not likely to be retained in the case, particularly if you act honestly with who ever may be the ordinary medical attendant, for it will be your duty to learn who the latter is and recommend that he be sent for to take charge. It is your distinct duty to insist upon this, for that is what you should want him to do under reversed circumstances and with a desirable patient. Of course, if this "emergency-patient" proves an undesirable person, it is wise not to be further encumbered with him. Obviously, on occasions of this kind, when ready neighbors run to offer their aid, it would come in poor grace for you to insist upon a double charge for rendering a temporary emergency-service; one, moreover, that is either in your immediate neighborhood or in close proximity to where you may have been at the time (if that be at your residence or office), else you would not have been summoned.

As I have said, what to do under such circumstances requires the nicest kind of judgment. Under the law, you have a perfect right to exact proper payment. As a man, neighbor, or citizen, you hardly can afford to be considered unfeeling, ungracious, mercenary. As a physician depending upon the practice of his profession for a livelihood, you are, necessarily, compelled to charge adequately for relieving the misfortunes of your fellow men, and you do this without danger of dissent. But in these irregular calls the circumstances are so unusual, the question of value is so dependent upon the conditions existing at the time, that each case must be decided upon its own merits.

My own experience has been that, if services of this kind are not paid for as soon as rendered, they remain unpaid. Subsequent attempts to collect are met with opposition and even vilification. It has become my practice, therefore, to be "too busy" to respond to calls of this nature, if such pretext is possible, and thus avoid going if the person in question is not one of my patients; but when responding to the call can not be evaded, for any of the many reasons that readily come to mind, it is my custom cheerfully to do the work gratuitously. Make no demand and refuse then and there to name a price for such services, even when asked to do so. When about to leave suggest, instead, that the folks send for their own doctor, but that you would be pleased to have them report to you how the case progresses. They rarely will come to see you; should they call later, however, and insist upon making a payment, let them do so, of course. In taking this course, you avoid making enemies, while it gives the patient an opportunity to compensate you for the work, if he desires to do so.

Compensation in Venereal Diseases

There is an almost universal tendency—I might say it is the common practice—to charge patients afflicted with venereal disease more than others for similar service, and, also, to demand payment in advance. This is "justified" (?) on the ground that these maladies are contracted in a deliberate way, are self-inflicted, the sufferers (men, ordinarily) being held responsible for their condition.

Now, manifestly, no individual in the quest of pleasure and gratification will fly in the face of a positive attack of one of the venereal diseases; he would, most certainly, defer the gratification of his desires to a more auspicious, less dangerful, opportunity.

Venereal diseases are as much accidents as are most diseases and injuries. They should be so considered in all fairness. I do not agree with those who say that a venereal patient has not the same claim upon our sympathy as have others. A far better illustration of self-inflicted disease is the gouty individual who inevitably suffers from acute indigestion or an attack of the gout after excessive dietary or bibulous indulgence. How many times do we hear such individuals say that they are going to a banquet and intend to enjoy themselves immensely, although they know full well that they will have to pay the usual penalty afterward? So with the individual who, on the morning of the first day of January, puts in operation a plan, systematically devised weeks before, with the fixed purpose of calling from house to house, drinking wines and liquors in each place, until intoxication finally becomes so marked that there is no subsequent recollection of the later visits. Pigs of this stamp certainly are not deserving of sympathy, and well may be left to suffer the consequences of their folly. Likewise are those foolish persons undeserving of commiseration who go to an all-night dance, knowing, from past experience, the inevitable result.

Large Fees and Excessive Fees

There is such wide latitude in fees that it is difficult to be specific in discussing the matter without occasionally appearing unjust. It is advisable, therefore, to lay down only general principles that are safely applicable under most conditions, such, for instance, as a definition or explanation of what is an excessive fee.

An excessive fee, it may be said, is any charge that the patient either positively is unable to pay, or cannot do so without unjustifiable sacrifice. What would be a nominal charge for one individual might be absolutely beyond the means of another. Thus, I knew of a middle-aged farmer who had a large fatty growth upon the right side of his chest. This tumor had gradually enlarged for years, until it was impossible for him to more than half lower his arm on that side; about the same as if he had an ordinary derby-hat between his arm and chest-wall. He finally visited a well-known surgeon of pronounced religious profession, who was fond of speaking to gatherings of students upon biblical subjects every Sunday. He demanded $1000 for removing this simple subcutaneus growth, one of the easiest things to do in surgery. The man had saved $700, the fruit of years of hard labor, and willingly offered this to the "great" surgeon in lieu of the sum asked. It was refused. The full amount was insisted upon, and the suggestion made that he borrow the additional $300, to make up the required one thousand.

A student who knew of this counseled the patient to enter the common ward of the hospital. This he did, and there was relieved of his tumor by another surgeon, one of the same staff. The grasping professor was much chagrined to see the patient abed in the hospital several days afterward. This doctor's inconsistency with regard to his professed christianity not only cost him the loss of what was an excessive fee, one that no honest man could insist upon taking under the circumstances—even if $700 proffered had not represented the savings of years of hard labor—but it actually prevented some other, fairer, man from earning a reasonable fee.

It is said that a San Francisco surgeon received $30,000 from one woman patient for one operation and twenty-one days' attention. Doctor Tiffany, of Baltimore, was paid $10,000 for a single operation. Doctor Chambers, of the same city, for attention to a stab-wound, received $5000. Dr. C. T. Parks, of Chicago, got $10,500, and Dr. A. C. Bernays, of St. Louis, $5000, for a single operation. These were all large fees, extremely large, indeed, but probably not excessive in a single instance, because perfectly easy to pay for those who gave the money.

On the other hand, a very moderate charge may at times become a decidedly excessive one. Thus, for instance, a $100-fee for an operation for appendicitis is a moderate charge, and, yet, this sum would be far beyond the means of many individuals who require this help. Even a charge of $1.00 a visit for one sick in bed with pneumonia and complications for six or eight weeks, who often must be seen twice and occasionally three times in a single day, would be excessive in the case of a working-man averaging but $10.00 or $12.00 dollars a week, with a wife and several small children to support. More especially is this so if such a man belongs to no sick-benefit association, and has been deprived of all income for this entire period, during which time bills have been growing, in all directions, for rent and sustenance. It is only fair that the doctor should discount his bill more than the tradesman under such circumstances, for in this particular instance the doctor's outlay is so trivial in proportion to his total charge, as compared with that of trades-people, that the equity of this proposition cannot be controverted.

Vaccinations and Revaccinating

Some men make the needless mistake of gratuitously vaccinating children whom they have delivered. There is no more reason why this should be done for nothing than that a circumcision, or attendance upon a case of measles, or any other thing you do as a physician, should be done gratis. Nor is it proper for you to agree to do a revaccination, whether primary or secondary, except for the usual fee. You no more guarantee a successful "take" than you do the successful termination of any professional work. Many people are under the impression that, if the first vacicnation does not "take," the doctor should revaccinate free of charge, or at least at a reduced figure. This is as senseless and as vaporous as to require you to make all but the first visit upon a case of cholera morbus gratis, because the patient was not cured then.

There are very few things that tend so much to belittle the profession and discredit a physician's work as for him, tacitly or otherwise, obligating himself to do subsequent work free of charge if not successful in the first instance. You have a right to work

for nothing, if you choose—and all of us do—but gratuitous services should not be conceded as a right of the patient.

I quote the following from "The Physician Himself":

"You should, of course, make no extra charge for repeated primary vaccinations, till they "take," no matter how long the interval between the trials; also, make but one charge for any person who has revaccination attempted, no matter how often, if during the same epidemic or smallpox-scare."

This statement is an example of what you should not do. To follow this advice, is to invite no end of trouble and bother. It is far better to refuse to do any vaccinating. Some will not "take" after many repeated trials. To do this, for instance, for $1.00, with the virus costing at least 15 cents, leaves you but 85 cents for time and judgment. The usual supply of medicine to a patient costs less. If the patient returns several times to be revaccinated, you lose time and money and cheapen yourself. The patient holds you responsible for the failures, in which he is justified by implication, for you suggest this interpretation by undertaking to repeat the work free of charge until successful. These remarks apply alike to primary or secondary vaccinations.

You have a right to charge for all work of a professional nature. Not to do so is to render services gratis, which should be done only where it is justified by necessity and so understood. To do as is advised in the quotation cited, only can serve to cheapen you and the profession in the public estimation. Nor are people in larger cities justified in asking such a sacrifice of a physician when they can have public vaccinators do the work equally as well free of cost. It is my habit, when patients are unreasonable in this regard, to refer them to the public vaccinators, where they need not ask for a reduction in the charge, but can have the work done free.

Credits

Never give credit to an office patient unless you are satisfied that he is good. Should you be in doubt, and, yet, trust him, enter his name and address upon a book provided for that purpose, or even upon a slip of paper, which you should carefully lay away in his presence. But this will not be necessary if you keep a history of his case, which should be headed by this information.

Special services requiring exceptional fees should be charged up immediately, so that the exact amount agreed upon or implied be not forgotten. This has also the additional advantage of finding you prepared to tell a patient the amount of his indebtedness, if asked for before the bill is rendered. This inspires him with the conviction that, in your own mind, your charge is justified, because of its having already been entered up against him, and the fact that you give him the statement without hesitation or other delay. It proves to him, also, that the amount is a settled or customary one with you, because not left open for future consideration.

Do not give credit in chronic cases, except you are amply secured in some satisfactory manner, or your patient is good financially, by which latter I mean that he has assets from which an indebtedness might be collected by legal process. It also is well, if you are requested to give credit, to make your business arrangements at the first interview, and before you consider the case from a medical standpoint. With those with whom you, nevertheless, enter upon a credit arrangement without this assurance, it is well to secure an acknowledgement of their indebtedness by the signing of a note or as many notes as may be required from time to time, in order to avoid the after-need of proving your claim, should it be disputed.

(*To be continued.*)

Cellular Rebellion

Being Chapter Five in "Lens, Reagent & Co."

By B. G. R. Williams, M. D., Paris, Illinois

Director of The Wabash Valley Medical Laboratory

A FARMER about 48 years of age noticed that he had "kernals" in his neck. For a time, he dismissed the matter from his mind, but, after a few weeks, a great uneasiness drove him to his physician—the indurations were growing rapidly and had become tender.

This doctor had read, in Matthew, of the wise man who built his house upon the rock, and elsewhere he had read of the foolish doctor who built his diagnosis upon guesswork. The farmer was prominent in the neighborhood and was wealthy. Success would mean reputation plus fee; but, then, the doctor had planned to take a joy-ride that afternoon and—

The patient used up the can of iodine-ointment given him by the doctor and in a week called again, as directed. The man's glands were enlarging rapidly, and he complained of shooting pains. Again this doctor recalled the Bible story. He palpated the glands. The patient winced, and the doctor recalled that the enlargements were painful. That reminded him. He attempted to take his mind from the new ditching project for his farm, and then began to search through a pile of catalogs of automobile-supplies. Finally he came across a pamphlet presented to him by the Quadruple Iodides Company. On the cover was the legend, "Pain as a Symptom—Rapid Reference for Busy Doctors." He searched in this for fifteen minutes, but did not seem to find what he wanted. Then he walked over to his book-case. Finding that he had lost the key, he pried the case open with a tire-tool and dug out his Osler.

It Never Happens!

Dear reader, I beg of you to remember that this is a story and not an actual happening; for, you know, such things as this never do happen. A certain droll person once described a physician's office about as follows: "An old well of a place, with a toad singing in the corner. If there are any other corners, one is furnished with a good safe, on top of which are piled poultry journals and pamphlets on mushroom culture; another, with a saddle and some spark-plugs; while the fourth is provided with a doorway to permit the entrance and exit of patients."

After looking at the index of the book in hand, our friend, the doctor, spoke up: "Well, Jake, you have a very unusual disease, and I think that we had better have Professor Keencutter come down here tomorrow and remove these tubercular glands. I shall telephone him tonight. Have your wife boil up plenty of water in the morning. We shall need some clean towels, too, and—

"Wait a minute, there, Doc," broke in Jake, "I don't know so much about that. Doctor Bhunk, who advertises in *The Gazette*, claims that he can take them kernals out with a plaster, and I don't much hanker after this knife business."

Thereupon the examination was concluded with a short sermon on quacksalvers and charlatans, and the patient made a getaway.

Jake now went to see Doctor Bhunk, who would do the work, and his charge would be $500. He hastened to explain, however, that his unrivaled plaster had everything backed off the boards and that other doctors would gladly pay a thousand dollars just to know how it was made. The farmer was almost persuaded to let him do the job, but decided to stick it out a bit longer before playing the game of five-hundred. So, next, he consulted the other village doctor.

Doctor No. 2 was mighty pleased to get this case from No. 1 and made a very thorough examination—meaning, a prolonged palpation. At length, after giving the impression of "You should have come to me first, but I can cure you, anyway," he advised the farmer that his glands were not tubercular, but that he had Hodgkin's disease, and that medicine was needed, not surgery. The lot of arsenic which Jake was made to swallow puffed his eyelids and gave him a bad diarrhea; but it had no effect upon the glandular enlargements. The iodides then substituted likewise failed.

What the Young Doctor Did

There was a third doctor in this country town. He was a young man, hadn't been there long, and Jake, upon a whim, consulted

him just before he was going to take the train to see Bhunk about that plaster.

This young doctor was interested in getting the fees.

This young doctor was interested in establishing a reputation.

This young doctor was *interested in the case itself and hoped to make an accurate diagnosis.*

The simple white-cell count ruled out leukemia, a diagnosis hinted at by doctor No. 2. A differential study showed that there was no mononucleosis; and while this did not prove that there was no tuberculosis, it was a strong argument against it. A complement-fixation test ruled out syphilis, a less probable possibility.

Jake got interested. The careful study of his condition raised his confidence, and upon the strength of it the visit to Bhunk was deferred. He also readily agreed to a diagnostic section of one of the smaller glands.

In the laboratory, hurried sections showed that the tissue was not necrotic, but cellular, and that these cells were not of lymphoid derivation. A close study showed that these cells were vegetative and doubtless came from cells lining capillaries. It may be remarked that a diagnosis of endothelioma spells a better chance than carcinoma. Jake and his friends were convinced, and, so, the growths were removed.

Recall that operation was the advice offered by doctor No. 1. But Jake was not a fool, and advice meant more to him when backed by a microscope than by a toad, safe, and saddle. It always works out this way.

Yes, Jake died, but not so quickly and not so ingloriously. Perhaps, if there had been a diagnosis rather than a joy-ride at the outset, Jake would still be working with his corn and potatoes.

Blood Examinations in Glandular Enlargement

In cases of glandular enlargement or conditions simulating it, I venture to say that the blood should be examined first of all as to actual anemia, hemoglobinemia, leukemia, and tuberculous mononucleosis. In some cases, it may be advisable to test for syphilis or cancer, by serum reactions. In all instances where the diagnosis is not clear, diagnostic sections should be made. It is the same in case of suspicious lesions of the cervix and with all tumors that may be reached with ease. Frequently the patient will permit this when he will not stand for complete removal. The former may usually be done under local anesthesia, the latter usually means etherization. Questioned closely, he will acknowledge that he fears the ether more than the knife.

I have written concerning the value of diagnostic sections, in a former CLINIC, and I will not repeat these recommendations here. To men who do their own tissue-work, I would suggest the use of contrast-reference mounts to control and back up their final opinions. These will tell better than book-pictures just what we are dealing with. I should be pleased to send directions for making these mounts to any who are interested, providing return postage is enclosed. Most men, however, send their tissues to laboratories, and place the responsibility upon the other man, or at least part of the responsibility, even though they do some tissue-work themselves.

In securing the tissue, local anesthesia is not always necessary. This applies especially to suspicious lesions of the skin and the cervix uteri. In case of removal of glands, local anesthesia usually is indicated, the choice of anesthetic depending upon the location of the gland, its size, and the "nerve" of the patient.

We have no very good proof (though you encounter the statement) that removal of a small bit of malignant tumor will hasten its growth or hasten metastases. However, it is best, for theoretical reasons, not to extend the incision into normal tissues; and, if the growth is malignant and can be removed, this should be done as soon as the diagnosis is made. If we thus can tell the patient that the growth certainly is cancer, he is more likely to submit to operation, than where it is evident that we are merely guessing.

This concludes this series of articles. I desire to thank the readers for their kind inquiries and also to thank the editor for his kind treatment. The subscribers of this journal may assure themselves that CLINICAL MEDICINE values as highly articles upon diagnostic subjects as it does contributions upon therapeutics. I have often repeated the advice of Austin Flint, and you will pardon me if I include it once more in this final message: "*How is it possible to bring to bear upon a case of disease established principles of treatment until the character and seat of the disease are ascertained?*"

Adonidin: A Useful Heart Remedy

By H. Hamilton Redfield, M. D., Chicago, Illinois

EDITORIAL NOTE.—This brief article is one of a series upon important vegetable remedies that have been contributed to this journal by Doctor Redfield from time to time. You should read them all.

CERRELLO, who studied adonis vernalis, was able to obtain from this plant a glucoside, to which he gave the name adonidin. This glucoside, which occurs in small amounts only, is a nonnitrogenous, colorless, odorless, and extremely bitter amorphous powder, and is very energetic.

Physiological Action

From his close clinical study of the physiological action of adonis, Doctor Budnow concludes that the active principle adonidin exerts an exciting influence upon the cardio-inhibitory mechanism at the central end, and that its further action is that of a paralyzer of the peripheral end of the vagus. He also concludes that adonidin excites the accelerator nerves, sometimes directly (through the blood pressure), sometimes indirectly; that at the moment of the vagal paralysis the two systems of cardiac innervation interfere; that at the termination of the toxic effect paralysis of the motor nerves of the heart occurs; that after death there is either complete loss of excitability or a marked weakening of the cardiac muscle.

Durand sums up his observations as follows: In doses of 1-3 grain, adonidin increases arterial tension, regulates the heart beat, diminishes the frequency of the pulse, and increases the force of the cardiac contractions; acts rapidly, its effects being present only during administration; increases diuresis; is well tolerated, but in increased dosage does irritate the stomach.

Lublinski and Huchard both report a gastrointestinal effect from adonidin, so severe in its nature as to require its withdrawal.

Blackwood classes adonidin as follows: "This agent is a cardiac and arterial stimulant and diuretic. By its direct action on the heart, it increases the force of the cardiac contractions, cyanosis gradually disappears, while dyspnea is less marked. No cumulative effects ever were noticed."

Scudder reports his observation in a few cases and summarizes by saying: "I have used it singly and have watched its action carefully. From what I have seen, I have hopes that it will surpass digitalis as a cardiac tonic."

Potter states that adonidin has an action similar to that of digitalis, but that it acts much more rapidly and energetically, and is devoid of any cumulative action. This statement is fully borne out by the experience of the author, who has come to look upon it as far superior to digitalin in all conditions calling for the latter drug. He has employed it in upward of three hundred cases of pneumonia as a substitute for digitalin, and has to see the first instance wherein adonidin gave any evidence of cumulative or gastrointestinal action. The same observations apply to numerous cardiac and renal cases in which digitalin was the indicated remedy and adonidin was substituted. It acts much more rapidly than digitalin, is considerably stronger and devoid of any of the unpleasant effects of the latter drug.

Therapeutics

Adonidin is the indicated remedy especially in the following conditions, namely:

The tension of the arterial system is below par, there is a suppression of or interference with the renal function, with resultant anasarca, and cardiac dropsy is present. The urine is scanty; the amount of urea is decreased; pulse is irregular, both as regards rate and force; dyspnea is marked.

A frequent accompaniment of these conditions is headache, dull and throbbing in nature, the pain extending from the occiput around the temples and across the eyes.

Adonidin should be studied in ascites, anasarca and hydrothorax, when the underlying causative factor is a chronic dilatation of the heart or valvular disease.

Cases of heart failure secondary to an alteration or suspension of, or interference with, the normal function of the kidneys should be studied in connection with adonidin.

It should be given full consideration in mitral or aortic regurgitation, when characterized by the typical headache, which, in conjunction with the other symptoms, are indicative of adonidin. In these cases, there is marked pain in the precordial region and the blood-vessels throb and pulsate. In interstitial myocarditis characterized by marked irregularity of the heart's action, extreme

dyspnea, and dropsy, it should be tried out. A sense of increased intracardiac pressure is promptly relieved by adonidin.

While this remedy is indicated in all cases of aortic and mitral regurgitation, it seems to exert an especially beneficial influence in those cases that have arisen as a result of chronic aortitis or of traumatic rupture of the valve, or independently of a rheumatic endocarditis.

Notwithstanding its prompt and energetic action, adonidin is a remedy that can with perfect safety be employed in conditions where digitalin would be contraindicated or at least given with extreme caution; as, for example, in fatty degeneration of the heart, simple hypertrophy, and some of the atheromatous conditions.

Administered to a healthy individual, adonidin does not give evidence of any great diuretic power, but when exhibited in disease, following the typical indications, it produces marked diuresis, especially when there is low arterial tension.

Specific Indications

Palpitation of the heart, mitral insufficiency, dropsy due to renal malfunctionation, irregular heart action secondary to renal lesions, dyspnea, and dropsy.

Sterility in Women

And How It May Be Treated

By Alfred de Roulet, M. S., M. D., Chicago, Illinois
Professor of Diseases of Women in Bennett Medical College, Medical Department of Loyola University

A WOMAN is said to be sterile when, having had the necessary opportunities, she is unable to give birth to a living child In absolute, or primary, sterility, conception does not occur, while in relative sterility the patient may become pregnant but is unable to complete the term of gestation. For all practical purposes, a woman may be considered sterile who has not become pregnant within three years of her marriage. Ansell's table (quoted by Duncan: "Sterility in Women," London, 1884) shows that of 6035 first-born children 3159 were born during the first year after the mother's marriage; 2163, during the second year; 421, during the third; 137, during the fourth; 69, during the fifth; and 86, from the beginning of the sixth to the end of the fourteenth. Voluntary, or facultative, sterility may result from sexual abstinence or through the employment of various devices and practices calculated to prevent conception or to induce abortion.

Secondary, or the socalled "one-child sterility," is an increasingly important variety, in which the woman bears one child shortly after marriage and never again becomes pregnant. In the study of a series of 170 such cases reported from various clinics, sterility was found to be due to gonorrhea in 44 (25.8 percent), and to puerperal infections in 32 (18.8 percent).

Physiologic sterility usually exists before puberty, during lactation, and after the menopause. As a matter of fact, the majority of women become sterile several years before the menopause.

It has been customary in years past to attribute all childless marriages to some fault of the wife, it being considered that ability to complete the sexual act established the husband's blamelessness in the matter. Unfortunately, *potentia cœundi* by no means implies *potentia generandi*, and recent investigations show that from 12 to 20 percent of all sterile marriages are due to some fault in the husband. Occasionally the latter may be unable to complete the act (impotent), more frequently the seminal fluid is deficient in quantity (oligospermia) or it may contain few or no active spermatozoa (azoospermia). In a series of cases of male sterility reported by Sanger, there were 1 case of impotence, 13 of oligospermia, and 37 of azoospermia.

The causes of sterility in women may be congenital or acquired, and they may affect any organ or any portion of the genital tract. In addition to the local causes, there are certain constitutional disorders frequently associated with sterility.

General Systemic Factors of Sterility

The general condition of the patient is often an important factor. Many women are sterile when in poor health, but readily conceive when, as a result of proper feeding, medication and surroundings, their physical condition is brought up to a proper standard.

Obesity has long been recognized as a cause of sterility, though the manner in which it prevents conception is as yet undetermined. The fault may lie in the anemia which usually accompanies the condition, or deposits of fat

in and around the pelvic organs may interfere with their function.

Conception rarely occurs in women with exophthalmic goiter, and, as a rule, the more advanced the disease, the less likely is impregnation to occur.

The long-continued or habitual use of certain drugs tends to produce barrenness. For example, alcoholics and morphine- and cocaine-habitues rarely become pregnant. In certain parts of Europe where ergot poisoning is prevalent, sterility is common. Chronic lead poisoning, while comparatively rare in women, is usually a cause of early abortion.

A number of observers during the past few years have asserted that frequent or prolonged exposure to the x-ray produces certain changes in the ovary which render conception improbable, if not impossible. The time of exposure necessary to cause sterility and the duration of the condition when produced are undetermined.

The possibility that a certain intangible personal incompatibility may cause sterility has frequently been mentioned, and cases are recorded from time to time which seem to show that such a cause does exist. The historic cases of Augustus and Livia and of Napoleon and Josephine are frequently quoted. My own opinion is, that a searching investigation would show the gonococcus at the bottom of this mysterious personal incompatibility.

With the laity, the absence of sexual desire (anaphrodisia) is considered a rather important cause of sterility, and practically all childless women who at the same time are devoid of any sexual inclination attribute their sterility to this cause. Where the anaphrodisia is an evidence of imperfect development of any of the sexual organs, of course this lack of development is the real cause of the sterility. Where there is normal development of the essential organs, however, the lack of sexual appetite probably is a factor of very little importance.

Ashton claims that women who masturbate usually are sterile. While this is very true, the sterility can hardly be attributed to the self-abuse, as masturbation in women is essentially a diversion of middle age.

Anatomical Defects

Local causes of sterility may be found in any one of the organs involved in the process of reproduction, and the determination of the local factors involves a searching investigation of the ovaries, tubes, uterus, vagina, and vulva. When any of the essential organs are absent or anatomically deficient to a marked degree, the condition generally is accompanied by evidences of imperfect development in other organs.

On account of its peculiar persistence in the performance of its function, the ovary is rarely a cause of sterility. Ovarian cysts

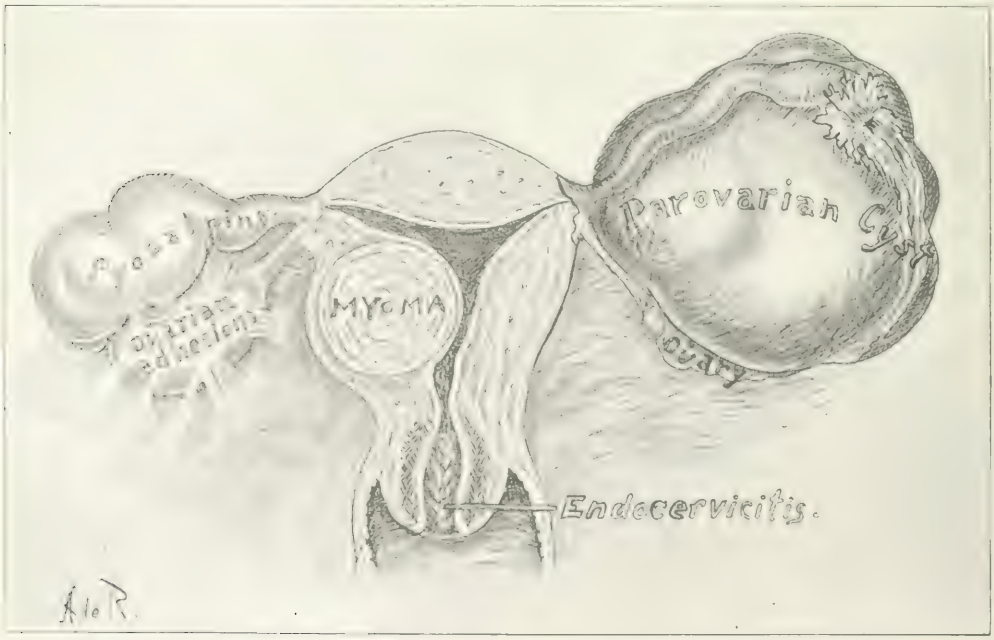


Fig. 1. Showing Parovarian Cyst.

interfere with but do not absolutely prevent conception, while parovarian cysts (Fig. 1) render impregnation improbable by widely separating the ovary and the orifice of the fallopian tube. As the result of an infection spreading from the tube, the ovary may become bound down in a mass of adhesions in such a manner as to prevent rupture of the mature graafian follicle and the extrusion of the ovum.

Microbic Invasion as an Important Factor

The most trifling abnormality of the fallopian tube may cause sterility, but ordinarily the condition is due to tubal infection, congenital anomalies being comparatively rare.

Gonorrheal infections are a common cause of primary sterility in young married women who have been infected by their husbands, while septic infection is not an infrequent sequel of criminal abortion. Several observers have called attention to the frequency with which permanent sterility follows an induced abortion.

As a result of infections, the fallopian tube may be bound down in a mass of adhesions or distorted in such a manner that its lumen is occluded or that its fimbriated extremity cannot approach the ovary. If the inflammation is limited to the mucosa, the swelling of the mucous membrane, during the acute stage, will result in a complete closure of the tube, which will disappear as the inflammation subsides. If the inflammation becomes chronic, there is likely to be a destruction of the ciliated epithelium, rendering the passage of the ovum to the uterus difficult, if not impossible. Occasionally there is also present an acrid discharge hostile alike to the ovum and the spermatozoa.

Should the tube become distended with pus (pyosalpinx), the prospect of its functional restoration, even by operation, is remote. In many cases where it is impossible to detect any evidences of an old gonorrheal infection in the tubes, it is possible to clear up the diagnosis by uncovering a more or less latent focus of infection in the uterine cervix, the urethral follicles (Skene's glands) or in the ducts of the vulvovaginal glands.

Uterine disorders are a frequent cause of sterility. Cervical stenoses and atresias and hypertrophic elongations of the cervix have repeatedly been pointed out as important factors. In chronic endocervicitis, the discharge may act by occluding the canal or by destroying the spermatozoa with which it comes in contact. In endometritis, the discharge may prove fatal either to the ovum or the spermatozoa, or the surface of the endometrium may be in such condition that the fertilized ovum can find no suitable lodgement.

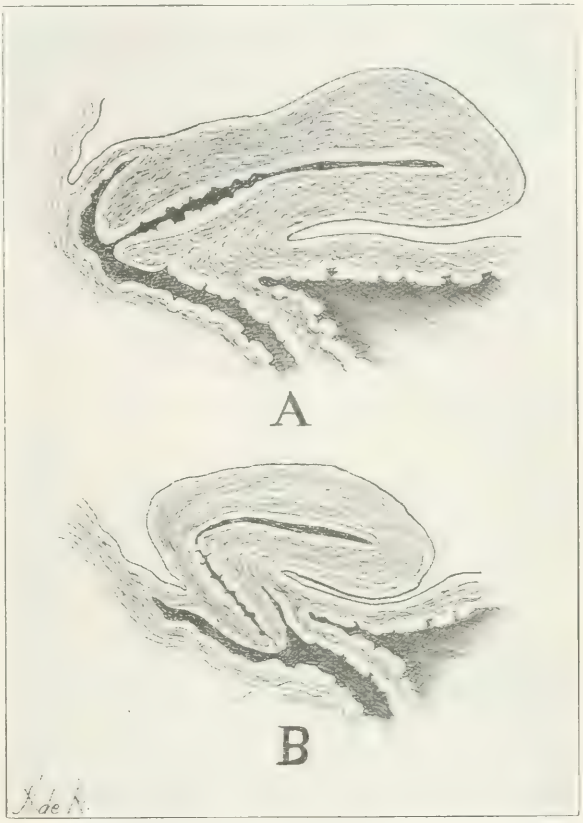


Fig. 2. Anteflexion of the Uterus.

Uterine displacements are associated often with sterility.

In anteflexion (Fig. 2), the sterility is due, not to the flexion, but to the imperfect development of the uterus, of which the flexion is but a symptom. It is not altogether impossible that the obstruction to the cervical canal might be sufficient to prevent conception, but it is not probable.

Retrodisplacements of the uterus, especially where the uterus is more or less bound down by adhesions, may cause sterility. The changed position of the cervix might tend to prevent the entrance of the sperm-cells, but it is more probable that the

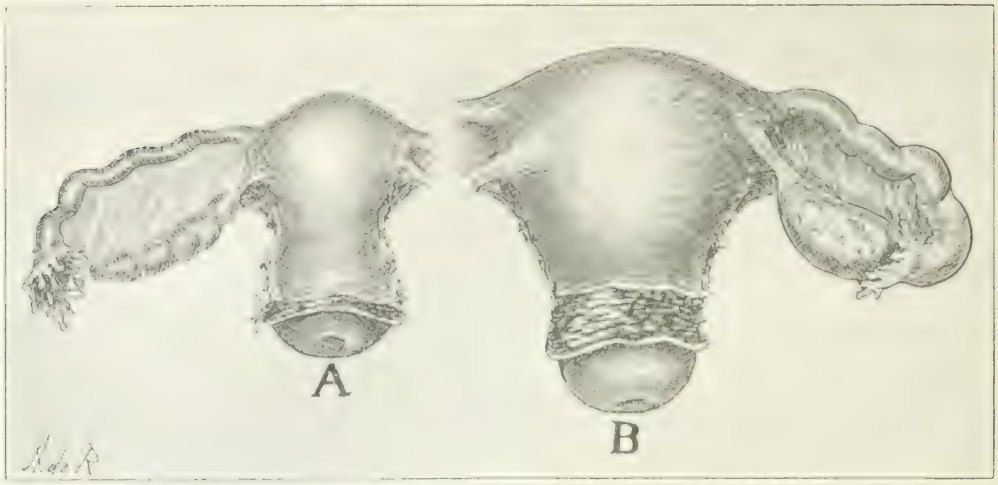


Fig. 3. "A" is an Undeveloped, "B" a Normal Uterus.

accompanying chronic endometritis is the real factor.

Pregnancy rarely occurs in a prolapsed uterus. Lacerations of the cervix offer no bar to conception, but where the lacerations are extensive there is an increased liability to abortion.

Are Uterine Tumors a Factor?

Uterine tumors are frequently but not necessarily associated with sterility. Pregnancy very rarely occurs in connection with cancer of the body of the uterus, still, an occasional case of pregnancy complicated by cancer of the cervix is reported. Myomata usually are considered possible causes of sterility, but it is doubtful whether they are a factor of much importance. In the museum of Loyola University Medical School is a very interesting specimen, of Dr. Herzog's, showing multiple myoma associated with a three-months' pregnancy.

Olshausen, in 1731, collecting cases of uterine fibroid, found that 30 percent of the patients had never borne children. Hofmeier investigated 327 cases and found that 20.5 percent of the women were sterile, that the average age of the patients examined was 42 years, and that the average duration of the sterility had been 16 years; and that the sterility had existed before the appearance of the fibroid. Hofmeier also points out that, of a series of 503 women who were sterile or who had borne not more than one child in five years of married life, there were only 7 cases of fibroids, and in 4 of these 7 cases the sterility undoubtedly was due to other causes.

A woman with an undeveloped uterus, either of the infantile (Fig. 3) or the immature type, rarely becomes pregnant. Associated with the imperfect uterine development is a tapiroid elongation of the cervix, the cervix being long, slender, and directed downward and forward along the axis of the vagina, the body of the uterus being sharply anteflexed. A small distinctly conical cervix with a pinhole orifice has been recognized as a cause of sterility since the days of Moses and in all probability does constitute an efficient barrier to the entrance of the spermatozoa.

Laceration of the perineum and extreme shortness of the vagina are said to be a cause of sterility, by rendering the vagina incapable of retaining the seminal fluid a sufficient length of time. I doubt this very much.

Prognosis of Sterility

In any case of sterility, the prognosis depends entirely on the cause. The absence of any of the essential organs of generation means an incurable sterility. When the condition is due to tubal inflammation, the prospects of a cure are not bright. Where the condition is due to uterine displacements, an elongated or conical cervix, benign tumors, cervical or perineal lacerations, endometritis or certain constitutional disorders, the prognosis is excellent. Where the fault lies in an imperfectly developed uterus, then the greater the imperfection, the less the prospect for cure.

In the absence of any distinct pathologic condition to account for the sterility, active treatment should not be undertaken until the husband's potency has been ascertained.

Treatment of Sterility

The treatment of sterility in women is based upon the discovery and removal of every condition, local or constitutional, which could have the slightest effect in producing sterility. In a few cases no evident cause can be found, and in these cases the treatment is bound to be more or less empiric. Usually, however, several possible causes are found, and then the task of eradication begins.

In certain of the constitutional causes of sterility, such as tuberculosis, diabetes, grave cardiac or renal disturbances, and exophthalmic goiter, I can not help thinking but that the patient is infinitely better off sterile than otherwise. Other conditions, including anemia, malnutrition, obesity, and so on, should receive appropriate treatment.

Frequent miscarriages at advancing stages of gestation should suggest luetic infection; and, if such a condition does exist, the patient should receive five or six intravenous injections of from 0.3 to 0.4 Grams of neosalvarsan, the injections being repeated at intervals of one week, followed by a two-years' course of intramuscular mercurial injections.

In the treatment of local causes, any condition that could interfere with coitus (for instance urethral caruncles, vulvar vegetations or hyperesthesias) should be corrected. Imperforate hymen still is mentioned as a possible cause of sterility; but, as a rule, this condition demands treatment long before any possible question of sterility can arise.

Retrodisplacements should be corrected, with a pessary if possible. If this fails, the round ligaments may be shortened. Anteflexions should be treated by wide dilatation of the cervical canal. Where the sterility is associated with endometritis or dysmenorrhea, thorough dilatation followed by curettage usually is the best treatment. Where the dysmenorrhea is severe and of long standing, it is often advisable to widen permanently the cervical canal by the introduction of a silver-wire spiral (Fig. 4) which may be worn continuously, and without danger or discomfort, for several weeks.

Fibroid tumors often may be enucleated without difficulty, and with some prospect of relieving the sterility. It should always be explained to the patient, however, that enucleation does not insure the complete removal of the tumors and that there may be a further development necessitating a second operation.

Parovarian cysts of moderate size can usually be removed without destroying the tube and ovary on the affected side. Operations for the restoration of an occluded tube (pyosalpinx or hydrosalpinx) usually result in failure. The breaking up of peritoneal adhesions and freeing a compressed ovary or distorted tube may restore normal conditions to such an extent that pregnancy may occur after the tissues have recovered from the effects of the operation.

Where no definite cause can be discovered, dilatation and curettage is employed as a purely empiric form of treatment, but one which in many cases is followed by thoroughly satisfactory results.

Occasionally the deposited spermatozoa are destroyed by a strongly acid vaginal mucus. To remedy this condition, alkaline douches (sodii bicarb., drs. 2; aquæ, ozs. 48) shortly before coitus are useful.

In a recent number of *The Journal of the American Medical Association* (April 26, 1913, p. 1318), too frequent coitus is mentioned as a possible cause of sterility, the writer suggesting that overindulgence causes the extrusion of immature ova incapable of fecundation. This explanation is not sound, as we know that sexual excess can, and does, cause a more or less temporary azoospermia, while we have no evidence that coitus has any effect on ovulation. The treatment suggested by this same writer, however, is excellent, namely, that for five or six months there should be complete abstinence from all sexual intercourse, except immediately before and immediately after menstruation.

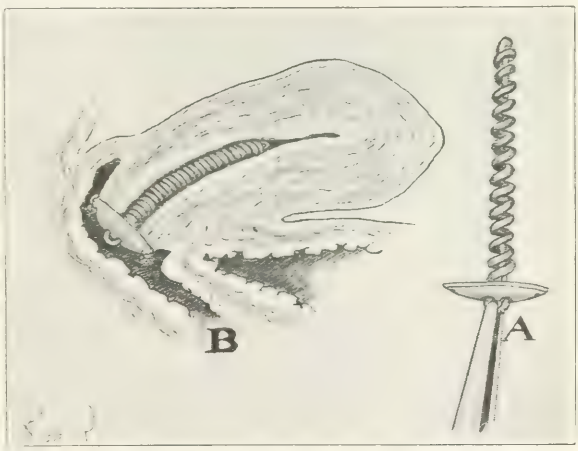


Fig. 4. Silver-wire Spiral Pessary for Relief of Dysmenorrhea.

An Old Doctor's Life Story

An Autobiography

By Robert Gray, M. D., Pichucalco, Mexico

EDITORIAL NOTE.—This article is the eighth installment of Doctor Gray's remarkable autobiography, which gives the intimate record of an adventurous and romantic medical career, beginning in our own South before the war, and now going on, as it has for years, in tropical Mexico.

[*Continued from October issue, page 927.*]

Phanton Shadows of Jenner

HOWEVER reluctantly, the truth must be told, and, so, I shall have to confess that I entered into combat with smallpox as ignorant of any practical method of treatment of that horrible disease as I had been in my conflict with yellow-fever, save in the feature of vaccination, for which I was in the highest degree qualified and prepared. And I took that branch of the campaign.

It was a hard battle with the Mexican populace to vaccinate them, the process being forcibly applied on the plantations, while the small ranchers almost unanimously refused the treatment, even when gratuitous, and for this they paid dearly, in the tribute of life the disease imposed when it made the customary rounds. The vaccinated persons of the plantations almost completely escaped infection; and not over ten percent of those who were not immunized by vaccination died. I did not then know all that critical experience has taught me since, and I am now satisfied that those who died after vaccination had in their systems some counteracting virus, hereditary or of other acquirement, that neutralized the vaccine to a degree as to render its influence negative, although the pustules had developed normally.

Since then, I have had the opportunity to observe some syphilitics, from the day of vaccination to that of death, infected after having been pustulated as elaborately as many of those who were positively immune. That there are such abnormal resistant poisons in some systems—possibly idiosyncrasies were the better term—there is no tenable ground for controversy; yet, I have never been able to discover any characteristic ear-marks of the negative influence that renders the protective virtue of the vaccine abortive, unless some peculiar state of the virus of syphilis, with pustulating fertility, destroyed the efficacy of the vaccine, while not interdicting, if not really aiding, pustulation. And I have never read anything clearly defining the obscure hypothesis, more than that healthy persons had been inoculated with syphilis by vaccinating them with virus from the arms of persons who subsequently died of smallpox and were found to be syphilitic; also, that some syphilitics had been immune to infection by smallpox—a contrariety of uncertainty.

Yet, with ninety percent of immunes from vaccination (the estimate I have made for more than two score years), what a boon the immortalized Jenner has bequeathed to imperiled humanity of all time!

While thus assiduously at work right along in advance of the pestilence, I was called to see the German manager of a big plantation who had contracted the disease away from his post of duty, before it reached his place. I found him in the last extremities. I strongly prognosticated early dissolution and told him frankly that, if he had any personal dispositions to make, he had no time to lose. His secretary was called and the patient started to dictate; but his mind wandered and his voice failed him.

The tidings that his case was hopeless reached the employees. The men were coming in from the plantation work, and many stopped at the house to ask about the patient. I was out in the corridor. One Indian boy doffed his cap and approached me, begging my pardon for saying so, but that it was a a pity that the good man had to die, but he believed that his mother could save him. I asked where the mother was and he told me, in their cabin less than a league away. I told him to run and bring her, and forty more such, if they could do any good.

Little time elapsed ere the two came in the regular Indian dog-trot, carrying some bundles, the old woman half scornfully bowing to me and not stopping until she reached the kitchen. I was not permitted to enter the kitchen while she was preparing her simples, and, likewise, when the remedies were ready, I was absolutely excluded from the sick-room. What was my astonishment when the next morning I was told that the man not only was not dead, but was conscious, able to speak, and apparently much relieved. The outcome was, that he got well, with no more than two small pits in the forehead,

and was up ere I finished vaccinating the people of this plantation and those of several smaller places in the neighborhood.

The German manager offered the woman five hundred dollars for having cured him; but she scornfully refused to accept a dollar, telling him her sons gave her all the money she needed; that he had been good to her boys and she had therefore come to him in his desparation, when, had he maltreated them, he might have died, for all she cared, like a rabid dog. He then offered her one thousand dollars for the prescription that cured him—really for me, of course, though he did not tell her so. The old Indian woman flew into a passion, demanding to know whether he thought her poverty was so miserable as to compel her to sell the last fragment of the wisdom of her ancient race to the palefaced bandits who had robbed her people of all outside that. Later, I learned indirectly that subsequently as much as five thousand dollars was offered by other parties, but with the same negative result.

The secret of that shriveled old Indian woman, coupled with the dowry bequeathed by Jenner, would make a combination absolutely master of smallpox. I was painfully mortified that such a poor, ignorant person could put me to shame. But there was no help for it. I knew nothing about treating the developed disease, and there was no medical preceptor anywhere able to teach me.

I Cope With Tropical Fevers

When the smallpox epidemic had exhausted its infectable victims, the disease disappeared; whereupon I turned my attention to the malarial, pernicious, and other fevers that stalked abroad in the land. But, while it seemed that I understood the diseases amply well and felt myself qualified to cope with them, my medication did not respond to the reliance I was forced to put upon it. I had the highest-grade medicines that Paris afforded, and, for some of them, had secured a higher concentration than the ruling standard, satisfied that the virulence of tropical diseases required more potent medication than of those of France or Europe in general. I had met a type of fever on the Pacific Coast, often raging epidemic from Acapulco to Salina Cruz and up along the coast of Michoican, as deadly as was the yellow-fever in the state of Vera Cruz, although without the black-vomit feature. In my struggles with this enemy, with all my learning and elegant equipment, I gained no dazzling medals. I saw the poor victims die, who, my intuitive intelligence admonished me, should have recovered. But this was an achievement I had no means to attain.

My conscience revolted when I was paid for such work, making me feel that it was blood-money that I was receiving, inasmuch as I had attempted to save, but failed, imperiled lives from a disease which, I was positive, was amenable to appropriate medicaments, if only they came to my ken.

I had kept in correspondence with my Civil-War companion, previously mentioned, who had returned home to Paris, and he assured me that I was master of all there was to be learned and had the best medicines in all the world. Hence, the only consolation I had was, that the money paid me for odd jobs of surgical work was well earned, and that my vaccination of the natives, which I persisted in pushing, was doing good in a degree sufficiently important to justify me in continuing the medical burlesque. The people wanted doctors, and would have them whenever in reach; nor did they blame the doctor when the patient died, an outcome they usually regarded as a foregone conclusion. As a matter of fact, they were so accustomed to this usual mournful termination that frequently the coffin was made and all the other funeral arrangements were prepared, even while the patient still retained consciousness. However, this pernicious custom I stopped wherever I was in attendance.

Naturally, among my numerous patients there were many who were not dangerously ill, and who recovered promptly; then their cure was attributed to my superior skill, the poor deluded people believing that certainly they would have died but for my skilful treatment; and this, in turn, brought me many patients who really had no need of a doctor at all.

The Dawning Light

Revelations have come to some people, both of cheering and of sinister significance; and there have been prophesies galore, some guessing around the borderland of Truth—more fanatically false. And there have been lights of the world, in pious phraseology, and lights in dark places, sometimes inconveniently surprising. But the first glint of Doctor Kane's midnight sun did not flash a ray of more dazzling light into polar darkness than that which burst upon my benighted mind, late in the year 1872, when the propaganda literature of Chanteaud & Burggraeve, of Paris, together with a

supply of their dosimetric tablets and granules of the active principles of galenic substances, reached me in the somber sequestration of the torrid wilds of Mexico, where I was in a desperate grapple with deadly fever. And that precious contribution from my war-comrade was supported by the hearty endorsement by the brightest clinical scientists of Paris, who had proved out these new remedies to a finish, and cried "Eureka!"; for, they had found the desiderium so long and so vainly sought in the medical realm. And in the same mail there came a letter from the venerable Doctor Hypolite Hérard, in which he assured me that my long-deplored want had now at last been supplied by Doctor Adolph Burggraeve, professor in the University of Ghent—the Christ of medicine!

It was the dawning of the light I saw, as I sat in my rocking-chair at the termination of the epidemic of yellow-fever. It was the birth and the baptism of my legitimate clinical career, endowing me with the ability to save desperate patients from whom the white-winged dove of hope had fled.

That has been a long time ago—just a few months less than forty-two years. And the marvels—aye! miracles—that I have seen those diminutive, frequently-repeated alkaloidal wonders of chemical triumph perform would fill several volumes as elaborate as this, were each intensely critical case detailed as the elaborate case-reports filling the medical journals of the day. And since then the mails have brought me from gay yet brilliant Paris, year in and year out, any and every new feature of that modern medical revelation. Even yesterday, the mail brought me some twenty French medical journals and special booklets replete with useful doings in that new camp of "*improved galenic medication*," as I have termed it more than a hundred times, as reported in medical journals from Canada to India.

And, at this point I venture to make the statement that I have positive certainty that *I was the first English-speaking practitioner who ever used the active principles of galenic substances*, for, my supply was purchased from the first batch ever prepared for the profession in the laboratories of the famous French chemist, Charles Chanteaud.

A New Life Begins

Then and there I began to live a new life, a life absolutely devoted to the sick members of our suffering humankind in these tropical lagoons and jungles; and that with no other purpose or motive or hope on the earth than to help. From now on, I no longer sought perilous practice in order that I might shorten my days, having become convinced that I was immune to any danger of infection; yet neither did I shun or shirk the most perilous service that drops so many of our young and hopeful brethren along the ghastly way-side. My physical health I guarded with the zealous care with which a miser protects his accumulating hoard, and this simply by living in conformity with the laws of nature (for, I do not patiently tolerate acute physical pain). My mental tortures I left buried in the wreck of the past where my clinical life began, in the wild rural haunts of hapless Mexico, the land where I have roamed ever since, and where I must sleep, surely, ere another decade passes by.

Yet, the end of this weird, enchanted pilgrimage absorbs incredibly little of my waking thoughts; and, I imagine, I may go as it lately was said of one of the prominent physicians of St. Louis—E. O. Standard—and as I should wish to leave this life: "forget to wake up some fine morning."

I think my situation is truly enviable, with no known living kin—man or woman—sufficiently near to be legal heir, and nothing on earth beloved, save my profession and my fruits and flowers—inanimate objects that will not weep over my lonely bier nor mourn beside my solitary grave. And yet, there may be waiting me a funeral such as never before there was anything like in this weird, quaint hamlet, where the poor and the wretched have never called me in vain.

From that day of awakening to medical life, I have remained, as it were, almost buried alive, down here in tropical Mexico, amid her fadeless flowers and blighting fevers, in a medical practice probably not less trying than may be found anywhere that flesh and blood has ever weathered for such a long lapse of years; and it has been but little more than twenty years since I first began to write squibs to the medical press about my experience. I did not really know what was happening elsewhere. I had no American medical journals, nor even heard of the existence of any that might be useful to me. My reading-matter and my medicines were French; and I did not write contributions for the French journals very often, knowing that the elegant practice of France and Belgium could not be greatly interested in the backwoods practice of Mexico. America was very slow about making proselytes to the new departure; indeed, it opposed alkaloidal therapy in a vindictive spirit really

alien to the progressive tendency attributed to that country when finally it was taken up, by a few feeble hands, in a formal manner.

Boosting Alkaloidal Therapy—Getting Acquainted

The shameless, unprofessional crusade waged against those early pioneers, whose enterprise I knew to be of sterling merit, and worthy of encouraging support, pricked me to subscribe for a large number of American journals and to send to all of those contributions that were drawn by the square-and-rule of the regular profession, but with some odd phrase dovetailed in about the high degree of service some French preparation had rendered me, but which certainly was unknown to the readers and very likely a stranger to most of the editors. As a consequence, great numbers wrote me for more information; and I had ready printed answers, giving outlines, in a nutshell, of the new medication. Not one of the journals would have printed an article on the subject. My answers advised the writers where full English information could be had and the preparations in question secured.

Those articles attracted sufficient attention that a number of editors wrote, requesting me to contribute something to their journals, and this I gladly did until my capacity to write more was reached, all such papers being written in the night, while I was watching desperate patients through the crisis, in plantation-houses.

For some time I did not write even a letter to the American enterprise of my faith, the journal issued by the firm being small and without circulation beyond its own proselytes; nor did I, for some time, try the medicines prepared by them, reluctant to change from my well-attested French supplies.

Finally Dr. Wallace C. Abbott, of Chicago, learned of me and of my work here, and sent me a full line of samples, with literature, accompanied by a request that I write for the journal he was publishing. Finding his products up to the standard of my French makes, I began to order my supplies from his enterprise, and also wrote some papers relative to my practice and experience down here. However, I was in ecstacies over my supplies from Paris and, so, strayed away in coordinate paths, but which converged toward the same principle.

The first quest I made among the treasure was a febrifuge that would supplant the perilous and unsatisfactory quinine, so extremely dangerous in dosage sufficient to break rebellious fever. Aconitine was the drug that I found more directly suited to my urgent requirements of the moment; but it was, emphatically, contraindicated for these weak tropical people. Yet, I saw how impressive were the instructions to watch for indications of any depressing influence upon the heart, and how to rally and sustain that capricious organ. I had feebleness of heart to start out with, equivalent to the action of a depressant upon a normal heart. Hence, I resolved to sail in with the aconitine and to employ the stimulant throughout the treatment.

Convincing Experience with Aconitine "to Effect"

I had in charge four or five cases of pneumonia, not yet to the crisis, in a high degree hopeless; and to these sick I went with the little granules of aconitine, giving one, about equivalent to 1-134 grain, of the amorphous principle, every fifteen minutes, and not to exceed ten doses; then every half hour, a few times, moving along to one- and then two-hours' intervals, watching with almost nervous trepidation for toxic symptoms—drug-sufficiency, or, the limit of tolerance; my physiologic training being ample to guard me from letting merge into collapse, and the hearts seemed to bear the strain with encouraging constancy.

One patient, in ten hours, was in a perspiration rivaling that of a Turkish bath; another held on something past thirteen hours; another wilted at eighteen hours; and the fourth at twenty-one hours. The fifth one was dying when I reached the house. Those that reached eighteen and twenty-one hours had a few fifteen-minute doses again, and half-hourly and one-hourly doses ere they were finally saturated. The other agencies of pneumonia medication of that age, mostly obsolete today, were employed energetically. The patients all recovered, and I now verily believe that the aconitine destroyed the pneumonococus—a complication of which, of course, we were profoundly ignorant in that age.

Those cases were a revelation to me, both as to the virulency of the disease and the requisite dosage to dominate each case. What sufficed for one patient in ten hours would have been negative with the one of twenty-one hours, if not that of eighteen hours, while it might have modified the one of thirteen hours in an appreciable degree. And the dosage that was continued twenty-one

hours would have killed the patient who had sufficient in ten hours. I found some persons with an idiosyncrasy whom aconitine did not dominate, but in whom veratrine acted effectively, as a rule; yet, sometimes that powerful substance was also negative, and then strychnine arsenate was effective. The system must be impregnated with some obscure poison too potent for venomous aconitine to vanquish, maybe in affinitive auxiliary with the virus of the disease.

Aconitine was regarded as toxic by medical experts, witnesses in a murder trial of an American doctor for poisoning his brother-in-law, in a London court; these experts testified that aconitine was too poisonous to be used as medicine. A report of the case was published in *The Medical Brief* of St. Louis, some ten years ago, maybe a little less.

There were three great cardinal points of vital importance in the new form of these new medicinal substances: stability; uniformity of strength; accurate dosage—all ever absent in the current standard galenics. If made standard, they deteriorate early, and no doctor can understand or guess how much; hence, accuracy of dosage is impossible. The unscrupulous druggist can adulterate or substitute at pleasure. The most of the liquid forms are nauseating to delicate stomachs, and too bulky to carry; on the other hand, the diminutive tablets and granules are not repugnant, their sugar-of-milk coating rendering the medicine tasteless; and of these new forms equivalent to two mule-loads of liquids may be carried in the overcoat-pockets.

I have been unable to conjecture how American clinicians could have the heart to combat medical betterment, unless they were blindly actuated by dominating sinister influences of manufacturing chemists, who howled infidelity to Galen and ruin to the regular profession. A person once very dear to me became a partner in a big manufacturing chemical company, and I made him an enemy to the day of his death by refusing to recommend a substance that was sent me but had failed, in my hands, to redeem its pretentions.

As to Galen, I devoutly worshipped at his shrine some twenty-two years, including the time I was studying in Paris; and tonight I pay him all the reverence that is his due. But this I do not recognize as a right to impede or hamper medical progress. He gave the world the best there was in his age, amply crude, as we now know, yet, containing the active germ that enlightened and enlightening Science has developed from his incongruous bulkiness; which he undoubtedly would have approved, had he been on the active stage when Burggraeve raised the mystic curtain and revealed the new wonder.

Our great altruistic pretensions are the promotion of health and long life, and I begin to hope that I have about redeemed my pledge by the part I have contributed toward the humane proposition.

(*To be continued.*)

The Urinary Diseases of the Senile Male

Giving Experience with Arbutin

By Charles F. Lynch, M. D., Terre Haute, Indiana

DURING the past year or eighteen months, I have had occasion to treat a number of cases of urinary disturbances in aged men suffering from urinary discomforts due to various causes. Among the most frequent causes for the urinary disturbance, has been senile hypertrophy of the prostate gland. In old men complaining of difficulty in urination, one of the first things to be considered and investigated is the condition of the prostate gland. In a great majority of these old fellows, rectal examination will reveal a large tumor mass, of the size of an orange, replacing the small body of about the size and shape of a horse-chestnut, that should, normally, be found in this location.

Early Symptoms of Prostatic Enlargement

The enlargement of the gland encroaches upon the neck of the bladder and prostatic urethra. This causes an interference with the escape of the contents of the bladder, and as a result the patient has difficulty in starting the flow of urine, and at first this may be the only symptom of which he will complain. This difficulty in starting urination is usually first noticed early in the morning upon arising. In some cases, the patient may not be able to start the urine until an hour or longer after arising. In the meantime, there is considerable abdominal discomfort as a result of the full bladder, which, moreover, is not without its dangers.

If the patient is observing, he will also note that there is, at this time, a deficiency in the force of the urinary stream. This frequently becomes so marked that the patient has difficulty to keep from urinating on his shoes or clothing, and has to stand close to the urinal. The last symptom is due, not only to the prostatic obstruction, but also to the atony of the muscular fibers of the bladder-wall.

The next marked symptom to appear is, an increased frequency of urination, this being especially marked at night. The hypertrophied prostate gland presses upon the vesical plexus of veins and thereby interferes with the return flow of blood from the bladder-wall. This means increased irritability of the bladder-mucosa and frequent desire to urinate. In the daytime, when the patient is up and about, the normal muscular exercise tends to maintain the circulation, but at night there is no aid in overcoming the influence of the enlarged prostate gland, and as a result the congestion becomes pronounced.

An interesting point in differential diagnosis of hypertrophied prostate gland and vesical calculus lies in the fact that in hypertrophy there is an increased frequency of urination at night, while in vesical calculus there is frequent desire to urinate during the daytime, when the calculus is rolling about in the bladder.

Cystitis Develops at Last

As the condition progresses, the constantly increasing size of the prostatic tumor mass further encroaches upon the bladder-outlet, and as a result that organ is unable to empty itself completely. This results in the accumulation in the bladder of what is known as residual urine. Urine which is allowed to remain stagnant for any prolonged period of time undergoes ammoniacal degeneration, and, as a result, we have, sooner or later, the establishment of a cystitis. Dilatation of the bladder and atony of the walls of the organ follow as a logical sequence and the condition of the patient gradually and progressively becomes more disagreeable.

Finally, when the bladder has become stretched and distended to its utmost limits, a new and highly disagreeable symptom occurs. The bladder becomes so full that it is unable to hold any more and the overtaxed vesical sphincter relaxes, allowing the escape, every few minutes, of a small quantity of urine. This is a condition which is known as dribbling of urine and is one of the most disagreeable symptoms of which these old-timers complain. It keeps them constantly wet and uncomfortable, and causes them to complain bitterly unless we are able to give them some measure of relief.

Arbutin Proves Efficacious

During the past twelve months, in the management of senile hypertrophy, I have had occasion to try, among other remedies, one that has seemed to afford my patients a considerable measure of relief and, for that reason, it seems to me, should have a more wide application. This is arbutin, a glucoside obtained from uva ursi and allied species of plants.

Arbutin passes through the digestive tract largely unchanged and is excreted principally through the kidneys. In its passage through these organs, it exerts a mild stimulating influence upon the renal cells, thereby increasing the amount of the urinary flow. It has a marked sedative and tonic effect upon the inflamed mucosa of the congested bladder, thereby relieving the more urgent symptoms produced as a result of the obstruction.

These results, in themselves, are enough to commend the drug favorably to our notice as a palliative remedy, but I believe I am beginning to see results following its continued use that are even more important.

I have had a few patients who have been unable, for financial or other reasons, to have any operative work done and to whom I have been giving, palliatively, arbutin, in connection with prostatic massage and high-frequency treatments at rather long intervals. These patients not only have experienced a relief from urgent urinary symptoms, but there also has resulted a marked decrease in the size of the enlarged prostate gland. This has become evident only after a long period of continuous administration of the drug—six to twelve months—but it has, none the less, been positive and gratifying to the patient. Arbutin, I think, deserves further application in this direction, and results should be published.

"Some Native Remedies Worth Trying"

A Criticism of an Editorial in Clinical Medicine

By H. C. Smith, M. D., Glendale, California

AN EDITORIAL, appearing in the April issue of Clinical Medicine (page 306) and bearing the above caption, discussed, at some length, Eclectics and Eclecticism; but, after a careful perusal and due consideration, I feel constrained to offer certain criticisms, for, it seems to me to be a case of "damning with faint praise," coupled with some inaccuracies of statement.

After mentioning the devotion of Eclectics to the clinical study of native plant-drugs, the article goes on as follows: "Although these observers, more particularly the older ones, may not have been up to the present standard in the sciences underlying the healing art, it does not follow that they were altogether blind or incapable of observing correctly and reasoning logically from their experiences." In other words, this statement constitutes a sort of backhanded inference that these men were ignorant of subjects outside of clinical drug-study—a very common error on the part of those unacquainted with the personal histories of those men. It goes without saying that those old-time Eclectics were not "up to the present standard in the sciences underlying the healing art," for, that would be equally applicable to the practician of any other school of medicine of that period. But, were these men ignorant of the fundamental studies, medical or otherwise? Hardly.

To gain any accurate knowledge of Eclecticism and its founders, it is necessary to separate the history into two eras. The Eclectics of the first era advanced no so-called irregular dogmas as to the cure of disease, but merely sought to replace the harsh and drastic mineral poisons and the depleting phlebotomy, which their "observation and logical reasoning" had taught them were detrimental to their patients, by vegetable remedies. They were "separatists" only because the violent opposition of socalled authority drove them from the ranks and compelled them to separate themselves from the rest.

It is true that these men, through observation, logical reasoning or accident—it matters not which—discovered that the withholding of water and fresh air from fever-patients is a death-dealing proceeding; that the administration of acids when the tongue is thick, white, and dirty, or giving alkalis (especially the alkali cathartics and diuretics) when the tongue is red, dry, and fissured, only serves to further the imbalance already existent in the body-fluids; that by examining the urine they could discover many pathological conditions, their origin, location, and progress; and that thus they laid the foundation for the new theory of practice promulgated in the second era.

It is worthy of recall that, because these men's methods of examining the urine were crude and largely natural, they were derided by the ultrascientific Regulars; yet this fact was very promptly forgotten by the aforesaid Regulars as soon as they themselves began to make use of this diagnostic aid, and now most religiously refrain from extending any credit to those to whom credit is due, but, instead, slightingly refer to the "ignorance of the Eclectics."

Historical Sketch of Eclecticism

Let us investigate the educational qualifications of the early Eclectics. Wooster Beach, the father of Eclecticism, had availed himself of the best that the New York colleges afforded; he had added an extensive (for that period) knowledge of botanical therapeutics; had studied abroad; and was a prolific writer on medical subjects, as well as a collector of anatomical and pathological specimens. During the period from 1823 to 1850, when he and Doctor Morrow were actively engineering the destinies of Eclecticism, the Eclectic colleges followed the curriculum as taught in the foremost Allopathic colleges and used the very same textbooks; only they added to the list "The American Practice of Medicine," the first revised edition of which bears the following legend on the title-page: "By Wooster Beach, M. D., Member of the Medical Society of the City of New York; Professor of Clinical Practice in the Eclectic Medical College of Cincinnati, and of Syracuse; Corresponding Member of the Royal College of Physicians and Surgeons of Berlin (Prussia), etc."

In 1850, Dr. Benjamin L. Hill, of Cincinnati, published "The American Eclectic System of Surgery," the first of a series of

strictly Eclectic publications on various medical subjects, especially those in which treatment, and more especially drug-therapy, is a factor.

Dr. Thomas Vaughn Morrow, the successor of Wooster Beach, was educated at Transylvania University; was graduated from a Regular medical college in New York City, then from the Reformed Medical College of the same city; and, during his rather short life, was an indefatigable student and teacher.

Space will not permit consideration of all the early Eclectics concerned in shaping the destinies of the school, and who also were graduates of Regular medical colleges or held degrees from literary institutions, or both. These men were salaried instructors in the Eclectic medical colleges; they possessed the time, talent, and inclination for original investigation; and were investigators not to be despised, for, they experimented upon themselves—as well as upon their patients, especially along the line of drug-action.

The man who, above all others, was the connecting link between the first and the second eras of Eclecticism was Dr. John King, a man who "at the age of nineteen was master of five tongues; at twenty-two, lectured, in the Mechanic's Institute of New York, on magnetism and its relations to the earth, to geology, to astronomy, and to physiology"; was a student throughout his life; and was a close associate of Dr. John M. Scudder, helping him to launch the second era of Eclecticism. It was King who discovered and introduced resin of podophyllum (podophyllin), resin of cimicifuga (cimicifugin, or macrotin), and the oleoresin of iris (irisin). King was a voluminous writer and the author of a number of textbooks, among which is "Chronic Diseases," published in 1866, and which, after an interim of fifty years, even today will make most practicians better physicians and better able to handle chronic ailments, should they carefully study this work.

Scudder Brings Out Specific Diagnosis

Then came Dr. John M. Scudder, who not only possessed great native ability, but also the determination to succeed regardless of obstacles; who consumed the midnight oil night after night in teaching himself, not only Greek and Latin, but the modern languages, and perusing the medical literature of this and other countries.

While Dr. Charles J. Hempel and other men had, for a number of years, endeavored to interest Homeopathists in pathology and to reconcile their symptomatology with pathological findings, although without any notable success, Doctor Scudder also had studied Homeopathy and seen the advantage and utility of reconciling their findings with pathological findings, but found it impossible to convince himself of the correctness of their fundamental law of cure, namely, their "*similia similibus curantur*."

Being a deep student both of pathology and of clinical therapeutics, and having assumed the professorship of theory and practice of medicine and pathology in the college, in 1859, Scudder evolved and elaborated what he brought to the attention of the profession, in 1869, as "specific diagnosis and specific medication." While this theory has been improved upon somewhat in the intervening years, a reperusal of his early writings on this subject not only discloses nearly everything that distinguishes Eclectic practice from other methods today, but also almost everything that is of value in "alkaloidal," or "dosimetric," therapy.

Scudder then taught that nosology is of utter inconsequence in so far as the medicinal treatment of disease is concerned. His study of pathology and clinical medicine had taught him that it is the organ involved and the nature of the involvement that determine the course of a disease and the signs and symptoms arising from it; that "like causes always produce like effects," and that these effects are only modified by collateral or extraneous conditions; also, that these involvements are evidenced by certain signs and symptoms that indicate their source and character; as, for instance, a pathological condition involving the nerve supply to a part generates different signs and symptoms from those arising from involvement of the blood or lymph supply to the same part. This method of interpreting the pathology through the signs and symptoms Scudder termed specific diagnosis.

As good tools are requisite to the accomplishment of good work, and as his knowledge of drugs, their origin, preparation, and mode of action had convinced him that it is necessary to have a good crude drug, to have this properly prepared, and then to know how it will act after it is taken into the body, Doctor Scudder persuaded Prof. John Uri Lloyd, then a rising young pharmacist of Cincinnati, to take charge of the important work of selection and preparation of his remedial agents. These preparations he named "specific medicines." That he copyrighted the

labels, was for the sole purpose of maintaining their high standard of excellence and thus protecting physicians from spurious imitations.

Specific Medication Defined

Scudder knew that reliable remedial agents will affect certain tissues in definite ways, whether such are healthy or diseased, and deduced therefrom that, if a pathological condition is producing irritation of the nerves supplying an organ or part, and if a remedy that is a sedative to that nerve supply is administered, then one can confidently expect a subsidence of the irritation in every instance, and the removal of the causative factor by the system during the process of restoration of nervous equilibrium, in most instances; or, if the pathology consists in an abnormal circulation in the parts, the signs and symptoms will so indicate, and it simply will be necessary to administer some remedy exerting a specific influence upon the blood supply to the parts or upon the general circulation, as the case may be, in order to accomplish the same results.

To this grouping of the signs and symptoms indicating the source and character of the pathology, Doctor Scudder applied the term "specific symptomatology"; the direct application of remedies to this symptomatology he termed "specific medication." He held that "all agencies employed in the treatment of disease should act in one of two ways—removing the depressing cause, and increasing the vital powers for better resistance and subsequent restoration of structure and function." Also, that "disease, wherever met and in whatever form manifested, is an impairment of vitality; that causes of disease are depressing and, while they exist, lower vital power." His slogan was, "*Vires vitales sustenete*"—sustain the vital powers; and he advised the administration of remedies in the smallest doses that will ensure desired results—a radical departure from prevailing and accepted practice of the dominant school, and even of that of the early Eclectics.

No history of the Eclectic fathers would be complete without that of Howe. Andrew Jackson Howe was to Eclectic surgery what King was to its materia medica and Scudder to its therapy. A graduate of Harvard University and a naturalist of no mean ability, he not only possessed a thorough knowledge of Eclectic medicine, but had attended several Regular medical colleges as well. Possessing an exact knowledge of human anatomy, he also had made, and published accounts of, necropsies upon various lower animals, including an elephant and a whale. Nearly forty years ago, Howe was drumming away at the medical profession, through the medium of the medical journals, in an attempt to persuade physicians to give more attention to histology.

What Constitutes a "Regular"?

Enough as to the educational qualifications of the early Eclectics. Most of them would scarcely have felt like calling themselves "freelances," merely because they gathered from whatever source was open to them. I believe that the appearance of toadying to socalled authority given, in the editorial, to Doctor Waugh by the statement, "especially when the remedies had also been tried to some extent by regular practicians," is belittling to the latter. What constitutes a "regular practician"? Does the fact that I am also a graduate of an Allopathic college make me any more a "regular practician" than I was before I received its diploma? The inference that only Allopathists are "regular practicians" is a gratuitous insult that has been freely peddled out to Eclectic and Homeopathic practicians for, lo, these many years. Possibly Leonard Keene Hirshberg, the publicist, who heads his effusions in the daily press with his picture and his "A. B., M. A., M. D. (Johns Hopkins)," is the true type of "regular practician." If so, and the following from his pen, clipped from a newspaper of recent date, is a fair sample of the goods displayed, then I, for one, am glad that there is a separatist school with which I may identify myself. It reads: "Nowadays, all the wise who know, say: 'Use the knife first, physical measures next, and drugs never, or at least, last.'" If this is the voice of infallible scientific authority, small wonder that the laity is losing faith in, and deserting us for, Osteopathy, Chiropractic, Christian Science, Weltmerism, and Apostolic faiths. Candidly, the wise who know—in fact, any who have had even a modicum of practical experience, say: "Such vaporings are the veriest drivel." Still, it is spread abroad in the land as "education," and is given credence because of the good repute of Johns Hopkins; more shame to Johns Hopkins and to the great A. M. A., which stands sponsor for it.

Quoting further from your editorial: "American writers and compilers have closely followed their European teachers, and, except Bartholow, scarcely one has had the courage to investigate the Eclectic works."

This statement is entirely too broad, unless the British authors are excepted, for they have investigated the Eclectic works; Phillips, in particular, quoted from such sources quite extensively in his "Materia Medica and Therapeutics of the Vegetable Kingdom." A number of other British textbooks on the subject are more thorough and complete in their treatment of the plant-drugs than are the general run of textbooks by American authors of the dominant school. "Now that we are cut off from our German source of supply, it well may be that among our wild-growing plants, as used by certain American practicians, we can find some neglected resources of value." This is a sad commentary on the lack of broadmindedness that characterizes the American branch of dominant and self-styled scientific medicine.

Defense of Eclectic Materia Medica

I hardly see the truth or justice of the following statement: "The Eclectics, on their part, have followed a similar, though opposite, course, and have confined themselves to their own peculiar materia medica, with some material taken from the Homeopathists." In what way have the Eclectics restricted themselves in the study of materia medica? It is true that not the same stress is placed upon mercury and some other mineral poisons, and that the recommended dosage of the preparations discussed is small; but it is equally true that a more rational dosage and therapy of these same drugs than prevailed formerly are now found in the Regular textbooks—a reform due to the influence of Eclectics and Homeopathists—Dr. John B. Nichols to the contrary notwithstanding.

Our Eclectic materia medica has been of sufficient breadth and scope that we have not found it necessary to waste much time and space in experimenting with the serums, vaccines, and animal extracts, and in recording innumerable observations which gave no one any definite information, and I believe that we have saved much valuable time, type, and bookpaper and done the profession a distinct service by not cumbering our books with inaccurate data. Aside from antidiphtheritic serum, smallpox vaccine, and thyroid extract, there was so little of definite value prior to 1912 as to be almost worthless, and those mentioned could be found in any standard work on practice. Doubtless, future Eclectic works will contain all accurate information upon this branch of materia medica.

We, the caudal appendage of Eclecticism, are almost bursting with pride since we have discovered that our "head and front," Professor Lloyd, has made us "respectable and honorable." Seriously, we need no outsider to inform us of the "genius and scientific proficiency" of John Uri Lloyd, nor to direct our attention to the merits of the "specific medicines"; but we shall be hard to convince that he is our authority on therapeutics or that he is the author of the abstracts credited to him, when we are well aware that Lloyd is not a physician and makes no pretense of knowing aught of practical therapeutics because of his lack of knowledge of disease-conditions to which we are called to apply remedial measures; but, of course, he does possess special knowledge along the lines of pharmacy, chemistry, and pharmacology.

It gives us keen pleasure to see Professor Lloyd, the Cincinnati Eclectics associated with him, and Dr. Finley Ellingwood given the recognition and honor justly due them; but we are strongly of the opinion that those other virile Eclectics in Chicago who preceded, as well as those contemporaneous with, Doctor Ellingwood, and who gave freely of their time, money, and, in some instances, even health, in an effort to keep the colleges alive and advance the cause of Eclecticism, probably had a salutary effect toward postponing the demise of the school. It might have died long ago, had not those valiant Eclectics of New York, Indiana, Iowa, Georgia, Missouri, and Nebraska kept up the struggle against strong odds for many years. The San Francisco Eclectics also made themselves factors in its existence, until the disaster of 1906 destroyed their holdings, and they, as well as the Los Angeles Eclectics who continued the work thereafter, at least deserve a little favorable mention.

When the editor of Clinical Medicine avers that "with the full and unqualified acceptance of the merits of our native materia medica the last excuse for the existence of Eclecticism will have passed, and it will have finished its work," and that "Waugh feels convinced that there are many remedies of real virtue among our native plants, but that the evidence as to their powers and applicability is suggestive rather than conclusive in most cases," it distinctly demonstrates that both, like a great majority of Alkaloidists and of Regulars in general, have failed utterly to grasp the fundamental principle of Eclecticism, which has kept Eclectics struggling for its perpetuation. That principle is, specific diagnosis, to which I have already referred.

I have not the space to elucidate further along this line, but wish to call attention to an article on phytolacca, in the June issue of *The California Eclectic Medical Journal*, as the best example of modern specific diagnosis and specific medication of which I have any knowledge. The evidence of the powers and applicability of any remedy will continue to be suggestive rather than conclusive in most cases, until our knowledge of pathological anatomy, pathological physiology, and diagnosis becomes a great deal more exact than it is at present; still, the aforesaid article is a noteworthy step in the right direction.

A Little Angry?

Too many physicians, Eclectics included, imagine that Eclectic therapy consists of learning the formulas upon the "specific-medicine" bottle-labels; and that an Eclectic should shy off from anything remotely resembling scientific medicine, like a mule from a rattlesnake; and entirely too many socalled Eclectics, when some conceited prig of the Allopathic persuasion, whose knowledge of drug-therapy consists in prescribing a round of calomel for every patient and of knowing that quinine sulphate is disastrous to plasmodium malariæ or bedbugs—he's not quite sure which—but, beyond that, depends upon the detail-men from the drug-houses, begins to swell up like a pouter pigeon and say: "Specifics? huh! there ain't no such animal; I practice scientific medicine"; then, I say, our poor little Eclectic begins to curl up around the edges, and cringe, and crawl, and apologize: "O, yes, I've renounced Eclecticism; I've outgrown all that and practice scientific medicine, too," etc., *ad nauseum*. 'Tis this, more than any other one thing, that is responsible for the asthenic state of Eclecticism at the present time—too much desire to ride in the band-wagon.

Scientific pharmacologic investigation is right and proper, and, to my mind, one of the most important steps taken in recent years by the dominant school; its members being the legitimate ones to pursue this line of investigation, as it requires a great deal of time and money, and they are the ones who have both. They also control the endowed institutions and our state universities, excluding the Eclectics and Homeopathists unless they accept a chair or two and furnish independent financial support, notwithstanding the fact that both Eclectics and Homeopathists, as well as their patrons, are compelled to help support these universities through taxation, whether they enjoy any representation or not.

On the other hand, the investigation of drug-action, after the manner of the Homeopathic provings, is essential to an accurate knowledge of this branch of medicine; and, finally, the remedies must be tried out in the crucible of clinical experience before drug-action will have become an exact science. Coordinately, this science of drug-action must be made to assist Dame Nature in antagonizing and overcoming the processes of disease-action by the methods the foundation of which was laid in 1859 by Dr. John M. Scudder, and which have been responsible for the continued struggle for existence of Eclecticism, rather more than the failure of socalled Regular medicine to recognize and accept the native materia medica, although both of these factors have played an important role.

Furthermore: There is no more reason for the extinction of the socalled irregular schools in medicine than there is for the extinction of all political parties but the Democrats at the present time. An active opposition is always a stimulus to more active endeavor in any line.

[The reader will find a brief comment upon Doctor Smith's somewhat torrid and tempestuous criticism in the editorial department, this issue, page 991.—Ed.]

The Medicinal Treatment of Chronic Heart Lesions

By Henry Beates, Jr., M. D., Philadelphia, Pennsylvania

IN CONSIDERING the subject named in the title, the first principal question which naturally and logically demands attention is, What is the object of the blood-circulation, and how is that object attained? Bearing in mind that the cardiac cycle causes an intermittent physical result upon the blood-mass circulating *in the arterial system*, the second question intrudes; to wit, how is the intermittent pressure of an intermittently moving blood-mass converted into a constant pressure *in the areas in which metabolism and function occur?*

Relation of the Circulating Blood to the Cells

The fact should be recalled that normal metabolic and functional processes depend upon a constant pressure that exists between the arterial system, on the one side, and the venous, on the other.

Here let it be emphasized that, practically, the cells of all the structures of the body are *not* in direct contact with the blood; because it renders self-evident the fact that the fluid which bathes the cells, and which should be recognized as intercellular fluid, is the medium of supply to cells of the principles necessary to their life, and also of those principles with which certain groups of cells (organs) are endowed with the specific physiologic property of functionating.

That this intercellular fluid is capable of normally fulfilling its functions, is foundationed upon the mean pressure above referred to. To render this fact more clear, recall the physiologic studies of the laboratory, which demonstrate that the intercellular fluid of the myocardium, in its isotonic condition, activates the contractile function of the myocardial cell, and thus effects a cardiac contraction. As a consequence of this excitation, the isotonic fluid becomes hypotonic; and, unless it is instantaneously restored, in an infinitesimal fraction of time, the next beat will not take place. Thus, ionization, osmosis, and other biochemic problems are in turn conditioned upon the normality of intercellular fluid.

Another group of cells, constituting the liver, illustrates the point advanced, and demonstrates how the glycogenic, urea, and biliary functions are based upon this fundamental principle. So with the kidney and with other structures not necessary to enumerate.

This intercellular fluid serves also as the receptacle for the products of cell-life, as well as of cell function; and it is its office to carry these products to their intended ultimate distributions, so that throughout the entire system functions and the processes of growth and development may be maintained.

As the output from the left ventricle is intermittent, the current of blood flowing through the arteries partakes of the same character, but this intermittancy is largely neutralized by the relationship which is maintained between the elastic layer and the muscular coat; and thus a constant pressure is approximated, in contradistinction to the intermittent, or pulsatory, for self-evident reasons. It must be recognized that the lessening of the pulsatory character of the circulating blood-mass in the arterial system becomes a constant pressure in the capillary and intercellular areas, and is so continued in the veins.

What Propels the Arterial Blood-mass?

The physical characteristics of the arteries should be considered at this juncture; and it may be remarked that too much stress has been laid upon the importance of the elastic layer of the arteries, and not sufficient accorded the musculature and its nervous mechanism. When we recall how, as we travel up the arterial tree from the aorta to the smaller branches, the musculature becomes proportionately developed, it is evident that a mechanism has been supplied which results in the musculature of the arteries being largely concerned in performing the function of propulsion.

The belief commonly entertained, that the heart propels the blood, must be seriously questioned. If the contractile resistance to be overcome, resulting from the numerous subdivisions of the arterial system, be contemplated, an idea is given as to the intensity of the force which must be imparted to the two or three ounces of arterial blood ejected from the left ventricle into the aorta, to drive the entire blood-mass before it; and the conclusion is inevitable that the heart is

not sufficiently strong to stand such a physical tax and strain.

If this be true, what, then, does propel the blood-mass?

Certainly, the pulses of the radials and the dorsalis pedis arteries are almost or practically synchronous with the systole of the heart. But this does not demonstrate that the blood-mass, in the fraction of a second, rushes from the left ventricle to these remote regions. It simply proves that an arterial contraction takes place instantaneously throughout the entire arterial system! Hence, a wave of blood does not travel, but a wave-like impulse is imparted, because the arterial walls throughout the entire system simultaneously contract. The pulse-wave, therefore, is expressive of an arterial reflex: and, when the law of the succussion of fluids is contemplated, it is recalled that an impulse to a volume of fluid is detected throughout its entirety; it becomes self-evident that the pulse-phenomena, as an illustration of this physical fact, are correctly interpreted.

The property of socalled tissue irritablity must be borne in mind. It is well known to physiologists that an excitant, whether of small or great degree, calling into action a reflex response, is followed by a degree of intensity of reaction that bears no relation to the intensity of the excitant. Thus, a mere touch will cause a reflex as strong as that occasioned by a severe blow. This explains why, in fatty degeneration of the myocardium, while the heart, month after month, is gradually becoming metamorphosed into fat, the constanty increasing weakness of the force of the ventricular blood thrown into the aorta causes an arterial reflex to occur that is equal to that occasioned by the contracting ventricle of a normal heart. This explains why, without symptoms of note, fatty degeneration of the heart reaches the point where instant death is practically the first demonstration of its existence. Every artery, therefore, if the above be true, should be considered as a heart for the area it supplies; and, hence, arterial disease may be local, that is, limited to one vessel; or general, and thus affecting the entire arterial system.

Recalling what it is that the circulation as a specialized function fulfils—to wit, the supply of essentials for cell-life, as well as the necessitaties for cell function—it is not surprising that many diverse diseases are the result of disturbed circulatory equilibrium. Chronic myocardial disease, therefore, may be the result of coronary artery disease, valvular lesions, pathologic processes more or less involving the entire arterial system, or of toxic principles affecting the myocardium directly.

Circulatory Equilibrium the Therapeutic Aim in Chronic Heart Lesions

Enough has been said to permit the statement that, in treating this class of diseases, the *fundamental principle* upon which their therapeusis must be constructed *consists in maintaining a mean pressure between the arterial system, on the one hand, and the venous, on the other.* This condition being maintained, it secures the normality of the intercellular fluid. The *sine qua non*, then, *is the restoration and maintenance of circulatory equilibrium.* As the processes of growth and development are involved, treatment must be continued for a long period of time before achievement of the ends in view can be secured.

Empirical medicine has established the fact that there are glucosides contained in the plant digitalis that are capable of restoring circulatory equilibrium with greater certainty than is possible by any other known means. Therefore, reliable preparations of these active principles should constitute the remedy *par excellence* for administration in myocardial diseases.

Chemistry, as applied to pharmaceutical procedure, has given the profession three principles of digitalis that possess reliable therapeutic value, or activity; namely: crystallized digitoxin, "digitalin-German," and the soluble amorphous digitoxin, named, after its discoverer, digalen-Cloetta. This latter preparation has the advantage of being almost free from provoking gastric disturbances, even in large doses. Digitalin is now being manufactured by The Abbott Laboratories of Chicago, and as the war in Europe has caused a great advance in price of this reliable digitalis glucoside, it will be acceptable news to the profession to know that after extensive employment of Abbott's digitalin, the writer has proven its efficiency and therapeutic value to be the equal of the foreign product.

Also, in emergency, digalen can be employed intravenously, with reliance upon prompt response. Its action, other things equal, is as dependable as is morphine for its analgesic indications, or quinine in controlling the toxic effects of the plasmodium malariæ. For acute circulatory failure, it is, therefore, of unparalleled value, and, in proper doses and duration of administration, the same claims obtain for the chronic dis-

eases the heading includes. Its continued use for months, or even years, has, in the writer's hands, been productive of practical cures in several instances, and in numerous cases of the maintenance of efficient health for years.

In a word, all myocardial degenerative processes resulting in loss of circulatory equilibrium and culminating in cardiac failure, if subjected to this active principle, and its administration continued as indications require, can, in their incipiency, be postponed; later, controlled; and circulatory equilibrium maintained for many years longer than it would be under other methods. Thus premature invalidism is kept in abeyance for a number of years, and comfort and useful life secured.

Illustrations From Practice

Of numerous cases illustrative of the principles here briefly outlined, the following are selected:

Mrs. T., aet. forty-seven, suffered from acute inflammatory rheumatism, of an exceptionally persistent type, during the winter and spring of 1907. Ankles, right knee, digits of hands, and the shoulders were the principal joints affected. The endocardium escaped, but a myocarditis manifested itself by embarrassment of cardiac pulsations, increased rate, paroxysmal tachycardia, precordial distress, and respiratory oppression of sufficient severity to cause fear of impending death. There was some reflex cough. The acute symptoms subsiding, it left a chronic form of disease which prevented indulgence in the usual daily activities of a housewife. Ascending stairs and walking at a usual gait and up inclines caused much distress. The pulse-rate was habitually above 90; the valves were not involved; a state of semiinvalidism existed. In 1909, digalen-Cloetta was administered in 15-minim doses four times daily. The improvement was marked. Treatment continued for months, when conditions had so bettered that the remedy was used during alternate months only. The patient practically is recovered and is enjoying her one-time accustomed health. She voluntarily resumes the remedy at intervals varying from one to three months, taking it about three weeks each time.

In 1909, Mrs. M. first consulted me for rapid pulse-rate, disturbed respiration on slight exertion, paroxysmal tachycardia, at times quasiasthmatic attacks, more common at night; but principally because she was unable to walk any distance (half a block) without such precordial and respiratory distress as to be compelled to stand still for several seconds before being able to resume. The cardiac sounds were those of the valves quickly closing in succession, thus: one-two-three—one-two-three—one-two-three—. No murmur, as a distinct sign, could be detected. This galloping rhythm, so to speak, was the chief physical sign. The rate was from 90 to 105. There was no reliable history obtainable of any etiologic infection. The patient was house-ridden when first seen. I prescribed digalen-Cloetta, 20 minims three times a day. After one year's continuous use, she was enabled to resume a moderately active life. Indeed, she was single when treatment was begun; she married, continued the digalen, as she herself had learned to employ it, and, practically cured, was assisting her husband in the provision business, when last heard from.

In 1891, twenty-four years ago, Mr. F., now aet. seventy-four, applied for treatment for preternaturally rapid heart action. Its paroxysmal character, while not pronounced, was sufficient to attract the patient's attention. Respiratory discomfort accompanied the usual physical exertion of daily life. Mental and physical sluggishness were pronounced. The superficial veins, especially the temporals, were tortuous and distended. Cardiac sounds were distant; the first relatively weak, the second augmented. No murmurs. Digitalis-therapy has been maintained during these years for periods of several consecutive months, then intermitted until symptoms indicating repetition of the remedies called for treatment. For the past seven years, digalen has been successfully taken, and a degree of comfort and activity maintained that must be seen to be believed.

Mr. F., aet. about seventy-six. During the winter of 1892, he was disabled—house-ridden—by syncopal tendencies, dyspnea on slight exertion, cough and expectoration of mucus, orthopnea, precordial distress and a sense of oppression that entailed marked suffering. The semirecumbent position in a Morris chair was his daily habitat. Meals were served him in his room, because of the distress accompanying efforts at ascending the stairs. Superficial veins, especially the temporals, were tortuous and distended. Pulse easily compressible, and the rate 108. Cardiac sounds feeble, and the long pause abridged so as to divide the time between beats about equally. Digestive functions impaired. Under 20-minim doses of digalen-Cloetta four times daily, improvement gradu-

ally continued, so that after three months ability to resume a relatively active life, and comfortably, was established. At present, there are present arrhythmia, bronchial hypersecretion, dyspnea, and symptoms generally of failing compensation; which are, however, bettering under 25-minim doses of digalen four times daily, and 1-200 grain of cymarin twice per day. When nearly twenty-three years of relatively useful and comfortable life is thus shown to have been established, the value of the treatment is self-evident.

Mr. H., aet. fifty. Two years ago he showed evidences of premature senility. Mental ability in business markedly failed. Physical activity precipitated undue fatigue. Respiratory distress hindered daily activities. Dry cough; thoracic oppression accompanied walking but a few hundred feet, and to ascend stairs caused panting for breath and a sense of exhaustion truly distressing. Cardiac action tumultous. Digalen-Cloetta, in 30-minim doses four times daily, effected phenomenal relief in a few days; whereupon the doses were reduced one-half, and are so being continued. No valvular lesions. Cardiac rhythm regular, and, on examination now, would not lead one to believe that the condition of two years ago ever had existed. The patient is attending to his business, as traveling salesman, under comfortable conditions.

Infections of the Eye

Suggesting Methods of Treatment

By Thomas G. Atkinson, M. D., L. R. C. P. (Lond.), Chicago, Illinois

EDITORIAL NOTE.—Doctor Atkinson has contributed a series of articles upon common diseases of the eye to "Clinical Medicine" during the year just drawing to a close. He is anxious to give any assistance in his power to physicians who may be interested in this topic. If you have questions you wish answered, write him.

FROM a clinical standpoint, all infections of the eye may be reduced to two classes, namely: those in which the pathology is limited to the external structures, the conjunctiva and the cornea, and those in which the inner structures become involved, including the iris, lens, ciliary body, and so on. Various pathogenic germs play a causative part in these infections; and, as a rule, the type and virulence of the invading germ determine whether the damage will be confined to the outside structures or will penetrate the inner eye. This, however, not always holds good. Sometimes the mildest infections, as to bacterial type, penetrate the outer membranes and attack the inner tissues, because of a break, mechanical or functional, in the resistance of the outer structures; while occasionally a very virulent type of invasion may expend its damage entirely upon the outer membranes, without penetrating into the inner eye.

Conjunctivitis

The conjunctiva, naturally, is the more susceptible of the two external structures, because of its vascular character; fortunately, though, it is, for the same reason, the more resistant.

The simpler forms of conjunctivitis mostly are occasioned by an invasion of the pneumococcus, the streptococcus or the colon-bacillus, or of perhaps all three together, and, less commonly, of the hemophilic bacillus. As a rule, the resulting inflammation is comparatively mild, manifesting itself in a moderate degree of a brick-red infusion of the membrane, especially of the lower palpebral portions, considerable itching, rarely any real pain, but a scratchy sensation as of sand in the eye. There is, of course, much watering of the eye, which later becomes mucopurulent, especially in the mixed infections.

The differential diagnosis between conjunctivitis and keratitis is simple enough, even if but a moderate degree of care and intelligence is brought to bear. Thus, the congestion of conjunctivitis is superficial, diffuse, of a brick-red appearance, and regular tracing of individual blood-vessels is not possible. The congestion of keratitis, on the other hand, is deep-seated, of a dark cherry-red color, and the regular lines of the ciliary vessels around the cornea are plainly discernible.

Of much more importance is the distinction between the various bacterial forms of conjunctivitis. As stated, the nature can be roughly guessed at by the mode of onset and the severity of the symptoms; still, no physician in these days is justified in relying upon these indications. The only safe method of diagnosis is the resort to the microscope; and no time should be lost to do so, no matter how

mild and innocent the appearance of the trouble; for, if the case should chance to turn out a virulent one, every hour that you have lost subtracts seriously from the probability of recovery.

In *every* instance of an inflamed conjunctiva coming to your attention, be sure to take a smear, at the same time gently but firmly declining to express an opinion until you have examined that smear under the lens. If it turns out to be a simple culture of the pneumococcic or colon or influenza or an equally simple mixture of two or three of these varieties of bacteria (the staphylococcus and pyogenes aureus—rarely albus—will always be present, of course, when there is pus), your diagnosis will be in accordance, and your prognosis favorable, provided the patient is otherwise in good condition and you cannot discover any wound in the conjunctiva or cornea. If, on the other hand, the microscope shows the Klebs-Loeffler bacillus or the gonococcus, both your diagnosis and your prognosis must be very grave; and, incidentally, your time for effective action is exceedingly short.

Assuming that the smear shows a simple pneumococcic or influenza or mixed infection, the treatment is equally simple. Irrigate the eye thoroughly with a normal salt solution, or, better still, with a 1 : 5000 bichloride of mercury solution, followed by normal saline solution, then instil a few drops of a 15-percent argyrol solution. Also prescribe the latter to be instilled, by the patient, a few drops every four hours, instructing him how to wash out the eye with a weak salt lotion (a pinch of salt to a glass of tepid water) before putting in the argyrol. If the patient is obliged to be outdoors or at work, it is better that he wear a pair of goggles, to protect the eyes from dust. These simple measures, as a rule, will cure a case of mild conjunctivitis in a few days.

Supposing, however, that the microscope discloses the diphtheria-germ or (what is much more common) the gonococcus, then your course must be a great deal more vigorous. As a rule, the symptoms are much more violent, and this, of itself, calls for far more energetic treatment. Furthermore, the dangers to the eye are grave and imminent. A gonococcal infection can, and often does, destroy an eye in twenty-four hours. There is no time for dallying.

The first thing to do, assuming that but one eye is infected, is, to seal up the other eye immediately with an airtight shield, so as to protect it against invasion. *Do this before anything else.* A very simple and effective shield can be improvised by cutting a circular piece out of a square of strapping-plaster, and setting into it an ordinary watch-glass, the whole then to be strapped firmly and adherently around the patient's face and nose. Needless to add that you are to take equally assiduous pains to protect your own eyes during your contact with the patient, by wearing goggles, disinfecting the hands, and burning up every piece of gauze and other material used in the treatment.

Now irrigate the infected eye *thoroughly* with a 1 : 500 solution of potassium permanganate, lightly bandage the eye, and direct the frequent application of ice-bags to control the inflammation. Inspect the eye at least every hour or two, and, if it appear to be doing well, repeat the foregoing procedure every three hours. If, however, at the end of twelve hours or so the eye is not improved, instil a saturated solution of methylene-blue, washing away the excess. This, of course, will color the membrane, but that soon wears out, while often it renders amenable an otherwise intractable case. It is an excellent germicide and absolutely harmless to the eye-membranes.

When the very acute symptoms have subsided, the cold applications must be stopped at once, as they are likely to impair the nutrition of the cornea. Indeed, if the cornea is involved in the infection from the start, cold must be used with great caution. In the later stages of the disease, if there is corneal infiltration, hot fomentations are advisable. Upon the subsidence of the swelling and angry symptoms, instil a 1-percent solution of silver nitrate, or, better still, brush it on the everted conjunctiva, once a day, until the patient is well, or, what is more likely to be the case, until no further improvement is attainable.

The treatment of a diphtheritic conjunctivitis is substantially the same as that of the gonococcal variety; except that injections of antitoxin may be added.

In all the varieties of conjunctival infection, an autogenous vaccine, or a stock vaccine (polyvalent) of the kind indicated by the bacterial field, constitutes an excellent adjunct to the local treatment, except in the gonococcal. In the latter, however, a staphylococcus vaccine often does great good.

Keratitis

Infections of the cornea may result from any of the causes that produce conjunctival infections, and may or may not be associated with conjunctivitis. Usually there is more or

less inflammation of the conjunctiva. However, keratitis is, of itself, never so acute or violent as conjunctivitis, because of the lack of vascularity of the cornea. But, for the same reason, when the latter *is* attacked, its continuity almost always is broken, with resulting ulceration; and not infrequently it is penetrated, communicating the infection to the uveal tract.

The differential diagnosis of keratitis from conjunctivitis has already been given. The bacterial diagnosis is to be made, as in conjunctivitis, by means of the microscope.

By far the greater number of cases of keratitis, as we might expect, are not primary infections from the outside, but secondary manifestations of constitutional diseases, as in interstitial keratitis; and the surface lesions are sheerly the work of staphylococci and streptococci acting upon a low-resistant tissue. The microscope will show this.

For the inflammatory symptoms of keratitis, the treatment is substantially the same as for simple conjunctivitis. Irrigate the eye with some mild antiseptic, such as a 1 : 5000 mercury-bichloride solution, followed by normal salt solution, then instil an astringent. For corneal infections, however, the zinc salts should be employed instead of those of silver; a 1-2- to a 1-percent solution of zinc sulphate or a 1 : 1000 zinc-chloride solution forms an excellent astringent in keratitis. As usually there is photophobia, it is well to let the patient wear tinted spectacles.

The rest of the treatment is directed toward preventing ulceration, or, if ulceration has already taken place, to preventing perforation and bringing about resolution of the ulcer. There is but one positive treatment that promises to obviate ulceration, namely, instillation of atropine (4 grains to the ounce) twice daily, thus procuring sedation of the cornea, resting the ciliary muscles and the iris, and drawing the iris up out of harm's way. Every case of keratitis should be atropized as soon as seen, and kept under atropine until recovery.

The negative indications are of such great import, and are so commonly ignored, that I feel like spreading them all over the page in big capitals.

Of all the diseases in the catalog, there is none in which it is so essential to know *what not to do*, and then *not to do it*, as in corneal infection. The philosophy of the matter is, really, very simple. Nutritionally, the cornea is a low-grade tissue, the resistance of which lies in its inertia. Hence, its inertia is its own best protection against damage, and your best ally in the defensive campaign. The practical aspect of the matter is equally simple. However eager and impatient you may feel to "do something," *don't do it*. Do nothing, in fact, beyond the few simple measures recommended above, until the actual occurrence of ulceration calls for it.

When ulceration takes place, the situation is completely reversed. The inertia of the cornea, which before was your ally, is now against you. Just as the cornea showed no inclination to react to damage, so, by the same token, it will, of itself, show no disposition to recovery. You will have to institute positive measures in order to stimulate resolution of the ulcer.

Three agents, in my opinion, are available, each to be employed in the order named, according to the severity of the lesion, namely, trichloracetic acid, iodine, and cautery. If you see the ulcer at its earliest stage or if it be a mild superficial ulcer, touch it, by means of a little cotton wrapped around an applicator, with a 10- or 15-percent solution of trichloracetic acid. This will immediately render the ulcerated tissue opaque, giving it the appearance of the white of an egg; but in two or three days this opacity will have disappeared and the ulcer probably be much improved. If this be so, repeat the procedure, say, twice a week or once a week, until healed.

If the ulcer be more than superficial when you first see it, use undiluted tincture of iodine, in place of the trichloracetic acid, until improvement is marked, and then change to the acid. And, if the ulceration be deep and extensive, cauterize it either with a silver-nitrate stick or with the actual cautery, for the first time or two, until it is sufficiently stimulated to bring it within range of the other measures.

Do not apply cocaine in keratitis, as it has a degenerating effect upon the cornea and induces ulceration and perforation. And—still more important—on no account ever employ solutions of lead, for they form an irremediable opaque combination with the corneal tissue.

Internal Infections of the Eyeball

Infections of the interior of the eye are, of course, far more serious affairs. The simplest form is that in which the iris alone is involved, known as iritis; the severest, that in which the entire eye is infected, or, panophthalmitis. And there are all manner of grades between, including iridocyclitis, uveitis, and so on. These are either extensions of an external

infection, through ulceration and perforation, or else are metastatic expressions of a general infection, such as rheumatism, tuberculosis, and syphilis.

With the exception of panophthalmitis, of which more later, the exact diagnosis of the different grades and extension of internal involvement is not very easy. These things have largely to be guessed at, from the severity of the general symptoms.

In all forms and degrees of internal infection, there are present pain, photophobia, dimness of vision, and circumcorneal injection. Objective examination shows dulness of the iris, with more or less exudate, perhaps adhesions, and cloudiness of the humors; and this cloudiness it is which obscures any further diagnosis, because ophthalmoscopic inspection cannot penetrate it. Consequently, all one can really distinguish by such inspection is an iritis or a cyclitis, as the case may be. If all the accompanying symptoms, especially the loss of vision, are severe, one is pretty safe in concluding that there is an iridocyclitis; if very severe, it is probable that there is a general uveitis.

The treatment of the attendant external inflammation is that which has already been recommended for conjunctivitis and keratitis. Zinc salts are the astringent of choice. Hot fomentations are excellent, as they promote absorption of exudates and local leukocytosis. Atropine, 4 grains to the ounce, instilled night and morning, is the *sine qua non* of successful treatment; it puts both the iris and the ciliary muscles to rest, thereby relieving pain and promoting absorption, while it draws the iris up out of harm's way, thus avoiding adhesions, the bugbears of ophthalmologists. Dionin, in 5- or 10-percent solution, frequently is of great service. Put not alone his eyes, but the patient himself to absolute rest—the patient recumbent, the diseased eye lightly bandaged.

Beyond these measures, there is little you can do locally for internal ocular infections. If the trouble be the extension of an external infection, a vaccine or serum, as determined by the bacterial findings, will be of great help. If it be part of a general systemic infection, then the treatment of the underlying trouble is an indispensable factor in successful management of the eye condition. Frequently sweating is beneficial, because it acts as an excellent stimulant of the glandular functions of the body.

Do not forget the importance, in all eye infections, of a thorough catharsis. Clean the gastrointestinal tract with calomel or phenolphthalein, or both (thalocal is an excellent combination), followed by a saline laxative for three or four successive days. In the severer infections, especially where the resistance is poor, hypodermic injections of nuclein are invaluable.

Panophthalmitis

Panophthalmitis stands in a class by itself. It may be the end-result of an internal infection such as we have previously considered, but much more often is the result of a penetrating wound of the eye. The important thing is, to be able to diagnose it. Generally the disease is ushered in by a rise in temperature and by general febrile symptoms, including headache and even vomiting. There is severe pain in the eyeball, rapid loss of sight, intense congestion, both conjunctival and ciliary, marked chemosis, and great redness and swelling of the lids. Tenon's capsule becomes infiltrated, causing protrusion of the eyeball and limitation of its movements. Pus usually breaks through the anterior portion of the sclera, after which the pain subsides, and in a few weeks the disease has run its course, leaving a shrunken, sightless eyeball.

During the acute stages, the only available treatment is, to relieve the pain by means of hot moist compresses and to incise the sclera, so as to permit escape of the pus. As soon as the inflammatory stage has passed, but not before, enucleate the eyeball, in order to avoid sympathetic disease of the other eye.

The Medicine of Tomorrow

By Simon J. Young, M. D., Valparaiso, Indiana

[*Continued from October issue, page 939.*]

America Will Fall in Line

IT is only a question of time when socialized medicine will be established in this country. The need for it is here, and this need is recognized by thinking men in our profession. At a meeting of the Academy of Medicine, in 1909, Dr. Woods Hutchinson expressed himself as follows: "Our present system of medical attendance is a makeshift and an anomaly. Born in an emergency and tinkered up at odd times, it has never been properly planned out or thought through. It combines the maximum of expense to the patient and of loss by all sorts of accidents to the physician, with the minimum of health production and disease prevention."

This is a severe arraignment, but it is true.

In a recent address, E. P. Lyon, dean of the medical school of the University of Minnesota, discussed the social status of medical practice. This address is a clarion call that eloquently proclaims the need for socialized medical service. It is pregnant with great thoughts, and ought to be widely read by the medical profession. Thus, after a discussion of our present individualism Doctor Lyon says:

"The other point of view is altruistic, or, if you prefer, collectivistic. It says that the social order (widely or narrowly considered) is responsible for those accidents which we call sickness and lack of employment. It looks upon disease and old age exactly as we have all come to look upon fire and burglary and the hazards of the sea. It says that society should carry the burden of all these exigencies. The individual should not be released, but he should bear only his share of the load. All this, broadly considered, is insurance. It may be government insurance, paid for by taxation, such as the protection afforded by the army, the police, the fire-department. It may be corporation insurance, such as our ordinary types of life-, fire-, and tornado-protection. It may be cooperative insurance, as in fraternal orders and friendly societies.

"Whatever its form, the philosophy of insurance is, that each participant contributes in proportion to his share of the risk. Not all receive back what they put in. Of a thousand houses insured, we expect only a few to burn. But the man whose house burns receives a much larger sum than he paid in. He receives it gladly and with no stigma of dependence, as would be the case if his friends took up a collection to pay for his house. Surely, this form of protection should apply as usefully and properly in meeting the exigencies of accident or disease as those of fire or theft." "This question," he says, "has not assumed large proportions in this country, but I am certain that it will do so in the not distant future."

The need of a salaried medical profession is discussed by Vogt in a recent number of *The Popular Science Monthly*.

Victor C. Vaughan, president of the American Medical Association, chose for his annual address the subject, "The Service of Medicine to Civilization." He cites proof that ancient civilizations owed their decline to epidemics more than to any other factor, and says: "The *greatest asset of any nation is the health of its citizens*, and the people who secure this in the highest degree will dominate the earth."

Let me quote also from Warbasse, who writes: "The socialization of medicine is coming. The time now is here for the medical profession to acknowledge that it is tired of the eternal struggle for advantage over one's neighbor. The value of cooperation in science is proved. Medical practice withholds itself from the field of science so long as it continues a competitive business. Its full possibilities will be realized only when its whole effort is expended in the conservation of human health and life."

Allan has written convincingly upon state insurance against sickness; and here and there other voices are being raised in support of some phase of this question.

Recently there appeared in the weekly Report of the Public Health Service a paper by Warren, wherein is presented a comprehensive plan for the establishment of sickness insurance. This paper was prepared under authority of the United States Commission on Industrial Relations. I wish I might quote extensively from it, for it proves definitely the need of such a service. It also presents a workable plan based upon exhaustive study of the entire question.

The crying need of medicine today is, organization for efficient service. Such organization never will come from our present competitive system. We multiply the cost of service in every conceivable way. We

make it impossible for three-fourths of our patients to get a correct diagnosis, because self-interest bars the cooperative effort necessary to make such a diagnosis possible. We waste our efforts in individual combats with disease, where we ought to mass our forces and annihilate it by a concerted attack. We not only are wasting our ammunition, but we are losing caste among our patients.

Meantime both morbidity and mortality are on the decrease, thanks to socialized public service in preventive medicine, and simultaneously our incomes are gradually decreasing. At the same time society demands—and rightly—that we assist in this process by giving more time to disease prevention. I say this is right. It should be so. I claim, further, that society, being the beneficiary, ought to pay the bills. We can not longer separate preventive and curative medicine. We have partly socialized the one; we must, eventually, combine and socialize the whole service.

The medicine of tomorrow will do this. It will take into account the fact that charity is a social folly. It will guard the health as well as the lives of the people. It will be an organized social service, with central stations in every community—hospitals, laboratories, research-centers, dispensaries, all at the service of the people and manned by groups of physicians on full-time pay. Every facility of modern science and every specialty will be at the service of the citizen upon equal terms, and the cost will be distributed in such a way that no one will feel it a burden. The medicine of tomorrow will constitute an organized service for the betterment of mankind, and not the least of its beneficiaries will be the physicians themselves.

Some Considerations Conducive to Higher Citizenship

As Applied to Medicine and to Physicians

By D. A. Buck, M. D., Laporte, Indiana

IF WE pause for a moment, take a retrospective view of life and turn the pages of history, we are astounded when we contemplate the marvelous evolution of man, and his physical, but more especially his mental and moral, development. History has witnessed the rise and fall of great cities and empires: Thebes, the most ancient city of the world, Babylon, Rome, Athens, and Machu Picchu (the last, according to recent archeological explorations, probably "the cradle of the Incas"), but illustrate the "Hand of Destiny." History is prone to repeat itself.

The present era of industrial, commercial, mental, and moral progress represents the most advanced epoch of civilization since the dawn of creation. Within the minds of many thoughtful persons the question arises: Is this evolutionary advance to continue or are we today facing the beginning of a period of retrogression—a physical and mental decline? The insatiate desire for wealth and power, the strenuosity of social and economic conditions of life involve such an expenditure of physical and nervous energy that physicians, particularly, are compelled to stop, to ponder and ask: Is it possible for the human machine to stand the stress and strain placed upon it? And if not, then we, as physicians, and others interested in the welfare, the uplift and progress of humanity should seek and advocate such measures as are conducive to the perpetuity of the race and to higher citizenship.

Religious wars and wars of conquest, founded upon ignorance, avarice, and inhumanity, have been the cause of a frightful loss of life, while a lack of knowledge concerning the causes of diseases and their treatment, and ignorance regarding sanitation and the laws of hygiene have resulted in most fearful epidemics, the complete destruction of cities and the decimation of entire communities.

We of today, who are fortunate in being here, in America, are living in a period of great achievement; we are riding the crest of a high wave of accomplishments. The whir of the aeroplane is heard—we look above, and it vanishes in the distance; the shrill scream of the locomotive and the honk, honk of the automobile grow fainter as they rush by, carrying their cargoes of human freight. But on the horizon dark clouds are lowering and low mutterings are heard, which proclaim the gathering of an oncoming storm.

The Tragic Increase in Chronic Disease

Despite a remarkable mortality decline—with a rate fallen as low as 9 per thousand in the Canal Zone, a point never before paralleled in history; despite an increased efficiency in the therapeusis of malaria, yellow-fever, mountain-fever, ankylostomiasis, diphtheria, tuberculosis, typhoid-fever, smallpox, syphilis, African sleeping-sickness; despite improved sanitation in every direction, we witness a rapid increase in carcinoma and sarcoma, in nervous and mental diseases and imbecility; some authorities even asserting that "the world will be turned into a madhouse unless existing conditions are remedied." Psychoses, neuroses, intemperance, drug-addictions, social evils, poverty, and crime—all these denoting race deterioration—stare us in the face; they fill our almshouses, overflow our psychopathic hospitals and homes for the feeble-minded, crowd our penitentiaries; with the consequence of increasing the burden of taxation and adding to the sum-total of unhappiness. And I ask you, fellow physicians, what are we going to do about it?

The two great factors essential to the solution of this problem are, proper legislation and rational education. It is not the purpose of this paper to enter into a discussion of necessary legislative enactments—except to mention incidentally a few more important measures demanding attention—but, rather, will I deal with the educational phase of the question, for herein lies our hope for the future.

The Threat of Alcohol

The paramount evil threatening civilization is intemperance. Its offsprings are, disease, poverty, crime, and unhappiness. So-called heathen China has risen in her supreme majesty and forbidden the use of opium among her subjects. But, the inroads made upon physical, mental, and moral stability by King Alcohol are far greater and more lasting than the havoc wrought by opium. Will intelligent and civilized America arise to the occasion and establish national prohibition or pass and enforce stringent liquor laws? That is the most important question that concerns the people of this country.

There are other needed reforms, and among these are: the abolition of stock gambling and corporate overcapitalization; the establishment of a national department of health; uniform marriage and divorce laws for the several states; an efficient law requiring the medical examination of candidates for marriage; a system of taxation that will prevent the concentration of wealth in the hands of a few; a just and adequate wage scale for various forms of labor; laws requiring the periodic medical examination of the well. These are a few measures conducive to greater national health, happiness, and prosperity.

The greatest asset of any nation is its citizenry; and the fundamental principle underlying all governments is, the making of good citizens. The physical, mental, moral, and economic development of a people depends largely upon the health of its citizens; but, how sadly our government, in the widest sense, has neglected its duty, is apparent to all thoughtful persons interested in race-betterment.

The Progress of Medical Science

The remarkable advance and conquest of knowledge in the science of medicine and surgery, through discovery and invention and through experience and experimentation, has been the most wonderful achievement within the realm of presentday civilization. Not only governments of the world, but the consciences of well-informed individuals have been quickened and awakened to the full realization that the medical profession has accomplished much for humanity, and is capable of accomplishing more. A greater spirit of cooperation, an increased respect and consideration for our opinions manifests itself among many people; for, on our profession devolves the responsibility of solving many weighty and difficult problems.

From the tenor of these remarks, you doubtless infer I am an avowed pessimist; but this is not so. In yon linden-tree is heard the warbling of a songbird as its throat swells in ecstasy, and the babbling meadow-brook laughs merrily as its waters wend their way to the distant sea; all nature smiles and the world is glad.

Few pastures lie forever verdant 'neath pleasant sky,
When rains descend and threatening storm-clouds lower,
Then swells the budlet of each tender flower.

The Problems of the Public School

Many articles have appeared in the lay press during the past few months, bitterly attacking our public-school system and in some instances calling it a failure. I am not at all in sympathy with such unjust criticism and stringent strictures, for the American public school is the hope of our country and the bulwark of civilization. On the other hand, conditions of today, with our ever-increasing urban population teem-

ing with industrial and commercial activity, are far different from those present during the days of our forefathers.

Ninety-five percent of the young people of our public schools will earn a livelihood by some form of manual labor. Millions upon millions of these children do not get further than the fifth or, at most, the eighth grade, and this primarily due to defective conditions of health. Possibly 3 percent of the entire school population graduate from the highschool, and of these graduates but a small fraction enter the university and other higher institutions of learning. There are about 260,000 schools in this country, costing annually nearly $500,000,000 to maintain. Obviously, the greater part of this enormous sum is not being judiciously expended for the best interests of the many.

Specialism has spread from the highschool into the grades, until today there is a specialist for nearly every subject taught. Naturally, each subject is being taught more thoroughly, thus requiring an increased expenditure of time in outside study. Overstrain and cramming result, to the detriment, oftimes, of the normal child, while the deficient child becomes discouraged and leaves school. In fact, our entire educational system of instruction is outlined for the normal and the exceptional rather than for the average child; and, as above stated, a large portion of this vast sum annually spent for education is injudiciously expended.

Now for the remedy.

We need a radical change as to the character of instruction in our public schools; in other words, we must introduce a vocational system of instruction. Farming communities should have instruction in scientific methods of agriculture, in horticulture, and in stock raising; and, indeed, such schools already are being established in many places. In the cities, we need more technical and trade-schools, and a greater emphasis must be placed upon manual training and domestic science. These latter two courses should be made compulsory upon the part of the boys and girls, respectively, and as many hours credit should be given proportionally toward graduation as if the pupil studied Latin or Greek. A system of educational instruction founded upon the capability and requirement of the child will make a useful and industrious citizen and will prove a potential factor in social uplift and all that is conducive to higher citizenship.

As previously stated, good government is dependent upon the health of its citizenry. It was Rousseau, the great French educator, who in the eighteenth century first laid the foundations for the teaching of school hygiene. He was followed shortly by Locke, of England, and Frank, of Austria, while in the nineteenth century Lorinser, of Germany, and Ling, of Sweden, introduced hygiene into the schools of these countries; and since that time the teaching of hygiene and the medical inspection of schools has been universally recognized throughout Europe. In the United States within recent years, the medical inspection of schools has received a tremendous impetus, until now twenty states have incorporated into their statutes some form of medical school-inspection law.

The school-inspector should be a physician of some years' experience, with a wide grasp of public affairs, a lover of childhood, and he should possess a knowledge of the fundamental principles of psychology. His duties are varied and many, and include the tabulation of reports and records. He should possess some knowledge of the construction of school-buildings and also correct ideas concerning heating, lighting, seating, ventilation, and plumbing of these buildings. Besides, he should have an efficient corps of assistants who would make special examinations and recommendations concerning eye, ear, nose, throat, dental, physical, and mental conditions of the schoolchildren.

Some people very properly may ask why the necessity of this innovation and increased expense? Kerr, of England, and others, in an examination of 50,000 schoolchildren, found 20 percent had defective eyesight. In 1906, of 78,401 pupils examined in New York City, 71.7 percent had defects or diseases partly or wholly amenable to treatment. Allport states that there are approximately 20,000,000 schoolchildren in the United States. Of these, about 90 percent have decayed teeth, 6,000,000 have adenoids and enlarged tonsils, 5,000,000 suffer from anemia and malnutrition, 5,000,000 have defective vision, 1,000,000 have defective hearing, about 1,000,000 are tuberculous, and 500,000 have some form of organic heart disease. About 3 percent of our school-population are mentally deficient.

The Burden We Carry

It costs the United States an expense of $100,000,000 annually to educate 3,000,000 "repeaters" who have impaired health, and, in addition, $15,000,000 is expended to care for 300,000 blind in various institutions.

Today, nearly 200,000 persons in this country are dying of some form of tuberculosis, and by January 1, 1915, a total of 500,000 cases of typhoid-fever will cost its victims $100,000,000 for the year 1914. Insanity costs the people $94,000,000 each year, while it requires almost an equal amount to educate and care for the feebleminded. It is conservatively estimated that the annual economic loss due to preventable disease and death amounts to $1,500,000,000.

Good health is the greatest blessing of mankind. Honor and fame, riches and power can not be compared with this priceless gem. Ignorance of the people concerning the laws of hygiene, of physiology and of health, ignorance of the laws of heredity, ignorance of the cause of disease and its effects, and, in addition, ignorance of the true motives of the physician and his relation to the laity imperatively demand that the public be educated.

We, the medical fraternity, represent the noblest, the most scientific, the most learned, the most self-sacrificing of all professions. Upon us devolves the necessity of doing our fullest duty, fearlessly, conscientiously, cheerfully, for the uplift and betterment of humanity.

In conclusion, I wish to leave with you this thought from "The Ruins," by Volney. His words are so all-inclusive, and withal are today as pregnant with wholesome meaning as they were when written one hundred years ago. These are his words:

"Instruct thyself, moderate thyself, preserve thyself,
Live for thy fellow-citizens, that they may live for thee."

IN AUTUMN WOODS

By GEORGE BIRDSEYE

Now ankle deep in mottled leaves
That o'er me cast their trembling shower,
Through rustling paths of autumn woods
I rove a meditative hour.

Soft melodies move 'round my feet
And fill the air far overhead;
Low whispering voices passing by—
The spirits of the summer dead.

With them I muse on memories,
Unconsciously with theirs in tune;
And, as in dreams, go back to days
When life was in its joyful June.

The spaces in the leafy roofs
Have wider grown; sunshine has found
Free passage, and, through gay tints, throws
A shattered rainbow on the ground.

A shattered rainbow—ah, how like
The fate my youth's ideals found!
Those glorious dreams! What are they now?
A shattered rainbow on the ground.

On tree tops each forsaken nest
Looks lonely, now the birds have flown;
Not even by a murmur blest
Of loving songs it once has known.

So joys of old no longer thrill
My heart, as once, with rapture strains;
And, where they chanted, all is still—
The silent nest alone remains.

Days fall like leaves, and mine grow brief—
The woods and I are growing old;
But what remains, of life or leaf,
Like these, may heaven change to gold.

What Others are Doing

EXPERIENCE WITH MINERAL OIL

In an editorial comment in *The Medical Review of Reviews* (July, 1915, p. 422), the writer states that about 20 percent of patients taking mineral oil for the treatment of constipation complained of a slight degree of nausea. In two instances, vomiting was reported to have taken place; the latter being most likely to occur in patients suffering from gastric stagnation, where there is retarded emptying of the stomach. The stools under the oil-treatment were soft, usually formed, sometimes mushy—their consistency varying with the dose—and obviously greasy. They had a peculiar odor, described as sour.

One disagreeable effect complained of by many was, that there was a leakage of oil from the anus, this often being sufficient to keep the neighboring skin in a greasy condition and not infrequently staining the clothes.

In view of these manifest disadvantages, it is suggested that the oil be used in the form of an aromatized emulsion. In this form, it is more palatable, hence, less likely to produce nausea; also, because of its more intimate mixture with the stools, the dose of the oil required is smaller and the probability of anal leakage is reduced.

BACTERIN-TREATMENT OF ECZEMA

Every case of eczema begins as a dermatitis, the cause of which may be some mechanical or chemical irritant, food-poisoning or nervous or mental disturbances. This dermatitis is transformed into an eczema through bacterial infection; the organisms ordinarily present being the staphylococcus aureus, staphylococcus albus, and a streptococcus—singly or predominantly in the order mentioned. The staphylococcus aureus is uniformly present. This is the theory, as to the etiology of this disease, advanced by Leon S. Medalia in *The Boston Medical and Surgical Journal* for August 5, 1915 (p. 187).

Working upon this hypothesis, Doctor Medalia has been treating his patients with vaccines, in association, of course, with other proper measures designed to remove the underlying cause, whether that be of a mechanical, chemical, dietetic or metabolic nature. He reports on 51 patients treated, of whom 43 were cured by this method; while of the rest 6 were improved, in 1 there was no improvement, and in 1 the result is not known.

In these cases, an autogenous bacterin is used by Doctor Medalia, and the doses employed by him are exceedingly large. He has found that at least 6000 million organisms of the autogenous bacterin are necessary to effect a cure. A much smaller number of the streptococci are used, providing they are found present. Should this latter organism seem to be a factor, a separate bacterin must be prepared from it.

However, Doctor Medalia does not begin treatment with the enormous doses above mentioned. It is his custom to initiate treatment with 250 million of the staphylococci or with 25 million of the streptococci, increasing the count by 50 percent at each succeeding injection. The average number of injections given was 12; the average duration of treatment was eleven weeks. In acute cases, the doses were repeated every twenty-four hours, and in subacute or chronic cases, at intervals of from three to seven days.

The dosage should be large enough to cause a general reaction; and if the local reaction at the point of injection in the upper arm persists more than twenty-four hours the dose should be diminished rather than increased.

WHAT TO DO FOR A "BLACK EYE"

According to Richard Kalish (*Med. Rec.*, Sept. 18, 1915, p. 467), that ancient remedy, "raw beefsteak," is of no more value in the treatment of black eye following injury to the soft parts around the eyeball than any other of the numerous disgusting domestic remedies so often recommended. These applications, he declares, are of no value whatever, a statement which may be too sweeping in view of their poultice-action and their centuries of good repute.

If one sees the eye immediately after the injury has been inflicted, the best treatment, according to Doctor Kalish, consists in the application of a pad made of six or eight layers of gauze, saturated with a solution of boric acid and bandaged tightly over the eye. A folded handkerchief can be substituted, if preferred. Discoloration following these injuries, when once established, cannot be dissipated. Painting the skin with a flesh-colored pigment is the only satisfactory method of meeting this exigency. This discoloration lasts about two weeks.

FOREIGN BODIES IN THE CORNEA: HOW TO FIND AND REMOVE THEM

In order to locate a foreign body in the eye, especially if it is adherent to the cornea, local anesthesia must be produced, and for this purpose Kalish (*Med. Rec.*, Sept. 18, 1915, p. 467) prefers a 1-percent solution of holocain; cocaine, he declares, dries the cornea, loosens and promotes necrosis of its epithelium, and thereby favors ulceration.

After the local anesthesia is secured, the patient is so placed that the eye is lighted from one side only, the daylight rays or the artificial light being concentrated upon the surface of the cornea with a 3-inch lens. By changing the position of the illuminated area or by directing the patient to move the eye slowly in various directions, the entire surface of the cornea may be examined.

If no foreign body can be found, but the symptoms point to the presence of one, despite the practitioner's failure, Doctor Kalish recommends the instillation of a drop or two of fluorescein-solution. A good formula is that recommended by Brav in *The New York Medical Journal* for September 18, 1915 (p. 600), namely:

Fluorescein	grs. 2
Liquor of potassa	dr. 1
Water, distilled	dr. 1

After this collyrium has been instilled, the eye should be washed out with a boric-acid solution, whereupon any abraded surfaces as well as the intruder itself will be found to be stained green or greenish-yellow.

In removing the foreign body from the cornea, great care must be taken not to do injury to the corneal epithelium. In most cases, the stranger can readily be displaced with a mop made by wrapping a bit of absorbent cotton around a toothpick. The foreign body, if it resists removal, is to be approached with the mop from various directions. If so firmly imbedded that it resists this manipulation, a blunt spud may be tried, and only in the event of its failure is one justified in resorting to a sharp spud or corneal curette. If the foreign body is a bit of iron or steel and a ring of stained corneal tissue is deposited around it, an effort should be made to remove this tissue, so as to prevent permanent discoloration.

Following the removal of the foreign body, especially if there is considerable destruction of corneal epithelium, and there is some pain, Brav (already cited) recommends covering the eye with a protective bandage and the application, several times daily, of hot compresses. Also, the eye must be kept at rest; this being accomplished by the instillation of a 1-percent solution of atropine sulphate; this is best combined with some analgesic, as in the following formula:

Novocain	gr. 1
Atropine sulphate	gr. 1
Distilled water	drs. 2

One drop of this solution is to be instilled into the affected eye every three hours.

These simple directions are of special value to the general practitioner, who ordinarily is called upon first to treat these simple injuries.

EXPLANATION OF THE EPILEPTIC PHENOMENA

True epilepsy and numerous forms of cortical epilepsy do not as yet in any way admit of any clinical differentiation, as C. Bolten, The Hague, points out in the *Deutsche Zeitschrift fuer Nervenheilkunde* (cf. *Muench. Med. Woch.*, Jan. 26, p. 120); who then proceeds to say:

The former must be considered a chronic autointoxication, produced by products of metabolism that have not been completely detoxicated, because of an underfunctioning of the thyroid gland and epithelial bodies. (Rectal administration of expressed juice of those organs is asserted to lead to permanent cessation of the pathologic phenomena.)

Cerebral epilepsy occurs as a sequel to all manner of diseased conditions of the meninges, the cortex, and more deeply-seated tissues, if the disease gives rise to extensive circulatory disturbances in the cortex, whether conditioned by general increased blood pressure or by local sclerosing processes. In this way, an accumulation of metabolic products takes place in the blocked region.

Consequently, the factor common both to true and to cerebral epilepsy would be, the damaging of the cortex by toxins of metabo-

lism. And, further, the outburst of an attack would represent a reaction of the organism, an effort to rid itself of the accumulated noxious products.

This theory suggests one somewhat similar, recently advanced by Dr. C. A. L. Reed of Cincinnati, who looks upon epilepsy as an intoxication-disease, resulting from the action of bacteria present in the intestinal canal. He believes it curable by a Lane operation, possibly by bacterins. And all this reminds *us* of the importance of our slogan: "Clean out, clean up and keep clean."

ADVANTAGES AND DISADVANTAGES OF HYOSCINE-MORPHINE ANESTHESIA

In an excellent paper appearing in *The New York Medical Journal*, for August 7, last, page 296—a paper which evidently was written after a very extended experience—Robert T. Gillmore, of Chicago, asserts that the overwhelming advantages of hyoscine in operating upon adults and in obstetrical work more than counterbalance the comparatively few undesirable complications that may follow. In surgical work, for instance, Doctor Gillmore declares, "it is hardly necessary for us to be reminded of the great advantage in the ultimate recovery of patients if they are able to go to the operating-room in a tranquil, drowsy slumber, rather than suffering acutely from the fear and anxiety incident to operation."

Other advantages of using hyoscine-morphine anesthesia prior to surgical operations are as follows:

1. There is much less danger of surgical nephritis, since about one-third less ether is required to complete anesthesia when the hyoscine-morphine combination is employed, while in minor surgical cases no volatile anesthetic is required at all.

2. Inspiratory pneumonia occurs much less often when this method is resorted to, since the hyoscine dries up the secretions and the throat is not full of mucus.

3. After the operation has been completed and the patient returns to his bed, he usually sleeps peacefully for several hours; the length of time depending upon his susceptibility to the drug. During this period, the ether is eliminated, so that in the majority of instances the patient escapes the nausea and vomiting that ordinarily is so distressing after inhalation-anesthesia.

4. The cerebral exhaustion attending surgical shock, which not infrequently results in incurable neurasthenia, is much less likely to occur; certainly its occurrence is markedly diminished. As a consequence, convalescence is much more rapid, owing to conservation of the patient's strength.

Finally, since vomiting is lessened and often entirely absent, nourishment can be administered much sooner than otherwise is the case.

The only contraindications to the use of hyoscine-morphine anesthesia referred to by Gillmore are those cited by Crile; namely: in nose and throat operations upon children, because of the tendency of the drug to superinduce spasm of the larynx. Also, hyoscine-morphine anesthesia should be employed very cautiously, if at all, when the patient is suffering from nephritis.

INDICATIONS FOR SCOPOLAMINE-MORPHINE AMNESIA IN OBSTETRICS

The following indications for the use of scopolamine-morphine amnesia in obstetrics are given by John Osborn Polak in a paper published in *The Journal of the American Medical Association* for September 18, 1915 (p. 994); the conclusions being based upon his personal experience with 400 confinements attended by himself and Dr. Ralph M. Beach in several Brooklyn hospitals; in addition to the report on 1000 cases collected by Doctor Beach, including the work of twenty different operators.

In his own obstetrical cases, Doctor Polak declares, not a death occurred among the mothers, while he could record less than the usual morbidity among these women. Postpartum hemorrhage followed in none of these deliveries. Also, no child has been born dead. While a moderate degree of oligopnea was observed in 15 percent of the babies, real asphyxia was less frequent than after ordinary labor. Three children died within the first ten days after birth, but the autopsies developed no evidence whatever that the scopolamine given to the mother had any influence in causing death.

Doctor Polak draws the following conclusions from his own work and that of others:

1. The twilight-sleep state is a reality, and is applicable in any labor in which there is not present primary inertia, marked pelvic contraction or any obstetric accident.

2. It is especially applicable in nervous women of the physically unfit type.

3. It is a valuable adjunct in the management of border-line contractions, for it allows the woman a full test of labor.

4. It is distinctly a first-stage procedure, and bears the same relation to the first stage

as do chloroform and nitrous oxide to the second stage: it relieves the pain, but does not inhibit the progress of labor.

5. It is particularly useful in cardiac cases, as it relieves the nervous apprehension and secures dilatation with less muscular effort.

MUSCULAR RHEUMATISM CAUSED BY WET AND COLD

In the view of E. Freund, of Korneuburg (*Wien. Med. Woch.*, 1915, No. 12), the muscular rheumatism affecting the soldiers exposed to wet and cold must be classed as a special variety, and he enumerates these characteristic clinical symptoms: entire groups of muscles are sensitive to pressure, and the same is true for the periosteum and joints, while mobility is interfered with; on the other hand, swellings and disturbances of sensibility and reflexes are absent. The slowly developing condition also is just as slow and obstinate in disappearing, while not changing its localization.

Salicyl-preparations and atophan have proven ineffective, while massage, gymnastics, and faradization have given most relief.

QUININE AND UREA HYDROCHLORIDE IN SCIATICA

When trying to relieve the pain of a patient suffering from sciatica, H. A. Cables (*Lancet-Clinic*, July 17, 1915, p. 57) happened to try the injection of quinine and urea hydrochloride (5 grains of this remedy to the ounce of normal salt solution), and the relief following was prompt and complete, the patient resting one entire afternoon and night. Six such injections completed the cure, and there has been no return of the ailment during the two years following.

The results were so happy in this instance that Doctor Cables tried the same remedy in a considerable series of cases, which he reports briefly. The benefit has been so striking and the relief from attacks after the immediate anesthetic effect of the drug so enduring that Doctor Cables believes the effect to be much more than that of a mere narcotic. In a number of the patients treated, a single injection of the quinine and urea hydrochloride has been followed by complete and permanent relief.

The injections of the quinine and urea hydrochloride should be made deeply since they are painful when introduced merely under the skin. The Doctor throws the solution deeply into the muscle, making no attempt to reach the nerve or its sheath; however, he introduces the needle at the tender points along the course of the nerve, as determined by palpation.

Before injecting the solution, the skin should be disinfected with alcohol or tincture of iodine. Usually the injection is repeated daily for four or five days, then every second or third day. Eight doses generally will effect a cure, while often six are sufficient to give permanent relief.

A TRIAL OF THE SCHICK TEST

Every reader of CLINICAL MEDICINE certainly will recall Doctor Lynch's admirable paper upon the Schick test for determining a person's susceptibility to diphtheria, published in CLINICAL MEDICINE for August (p. 718). An abstract of an article, by Stammel, upon the same subject will be found on page 847 of our September number. We now find a very interesting report of a practical trial of this test made by Linenthal and Rubin in the Home for Jewish Children, at Dorchester, Massachusetts, published in *The Boston Medical and Surgical Journal* for September 16 (p. 427).

These two investigators submitted to this test 126 children ranging in age from 5 years to 10 years, and only 30 of these children were found susceptible to the disease, 90 being immune. To each nonimmune child, 750 units of antitoxin was administered. It was found further, by means of proper tests, that the artificial immunity did not persist more than four weeks in 50 percent of the subjects; the duration in several children being eight weeks, while in 6 of them it lasted for more than five months.

The authors are convinced that this test is of great value in determining susceptibility to diphtheria, serving as a guide as to who may require the prophylactic injections in the case of exposure to the disease.

KAOLIN IS USEFUL IN DIPHTHERIA

Kaolin, properly applied, in the form of a dry powder, according to Hektoen of Chicago, removes diphtheria-bacilli from the throat. An excellent abstract of his report of his investigation, appearing in the *Bulletin of the Chicago School of Sanitary Instruction*, states that for the purpose mentioned kaolin is blown into the nose or throat six or seven times a day, at 2-hour intervals, through a glass tube. The insufflation is repeated sev-

eral times at each treatment. The success of this measure appears to depend largely upon the free and thorough distribution of kaolin over the nasal surfaces.

In a number of cases, in some of which there were a great many diphtheria-bacilli in the throat, complete and apparently permanent removal was accomplished in from two to four days, the throat to a large extent being freed from all bacteria.

It seems, then, that kaolin may prove of great value in removing pathogenic bacteria from various surfaces of the body, by virtue of its mechanical effect; particularly so for sterilizing "carriers," some of whom are exceedingly refractory to other treatment.

In acute infections, this medication is worthy of wide application by the profession —and a careful record should be kept, and reported upon, in order to establish the final place of white bole in antiseptic practice. If its value is proven, it will be an inestimable boon to public health in the control of contagious disease.

MORE ABOUT AMEBAS IN PYORRHEA

As we have elsewhere indicated, there is a controversy going on within the dental profession as to the etiologic influence of the entameba buccalis in pyorrhea, a considerable number of prominent dentists believing that this organism is not the primary causative agent, as now widely maintained. These gentlemen have been bolstered up in their opposition by the results of certain investigations conducted by Dr. Anna Williams, of the Research-Laboratory of the New York City Board of Health. Doctor Williams, it appears, made a series of tests of the mouth secretions of a large number of schoolchildren, and found the entameba buccalis in 30 percent of the children who presented healthy gums, in 50 percent of those having healthy gums but carious teeth, in 84 percent with dental calculus and receding gums, and in 94 percent having tumefied and bleeding gums. The amebæ are so widely distributed that it is assumed by the Doctor that they hardly can be the etiologic factor in pyorrhea.

These figures are made use of by Dr. J. J. Sarrazin, in a paper published in *The New Orleans Medical and Surgical Journal* for September, 1915 (p. 154), to make a forceful attack upon the amebic theory of pyorrhea and, consequently, upon its treatment with emetine. However, he qualifies his arguments with the statement that there is "no intention to question the destruction of the ameba buccalis by emetine or ipecac. This is quite beyond doubt." Continuing, he says: "On the other hand, there is strong reason to believe that these amebæ are unjustly accused of producing conditions they only enjoy; that the health of innocent victims is being threatened by strepto- and staphylococci allowed to carry on infection while amebicides constitute treatment." His opinion is, that much of the benefit derived from the use of emetine really is to be attributed to the conjoint local use of antiseptics.

Sharply contraverting this position of Sarrazin's, is the experience of Brunelle and Ginsberg, as published in *The New York Medical Journal* of September 11, 1915 (p. 554). These gentlemen made an extremely exhaustive study of mouth secretions under conditions which it was thought would exclude any error. These tests were made in 356 cases. The authors say frankly that their experience does not agree with that of Williams's. For instance, they examined 50 children between the ages of three and six years, without finding the entamœba buccalis except in one; and in this instance the child had an unclean mouth, carious teeth, and bleeding gums.

Their results follow very closely those reported by Bass and Johns. Thus, in 123 mouths showing no apparent lesions, only 3 (2 1-2 percent) tests gave positive results; while out of 107 cases of frank pyorrhea, they were positive as to the entameba in 102 (95 percent). In 37 mouths showing a pyorrheal tendency, the entameba was found in 29 (or 79 percent). Also, in a series of 39 cases referred to them by dentists, who dug directly into pus-pockets, with a dental scraper, for material to be examined, they had 100 percent of positive results.

The conclusions of Brunelle and Ginsberg are, "that the entamœba buccalis is almost constantly present in pyorrheal conditions, and is rarely present in healthy mouths."

PYORRHEA AND MENTAL DISEASE

That the condition of the teeth has much to do with mental disorders, is the astonishing statement made by Carl W. Sawyer in *The Illinois Medical Journal,* for October (p. 244).

Dividing his cases into two classes, namely, the depressed and the excited, Doctor Sawyer soon learned that those of the depressed, melancholic type of the insane had poor

teeth (or no teeth at all), and suppurating gums, while, as a rule, those of the violent, excited type had beautiful white teeth and clean gums. Thinking that there might be a connection between diseased mouths and melancholic and depressed states, cultures were made from the pus exuding from the alveolar pockets, which disclosed the presence of numerous staphylococci. Thereupon, vaccines were administered to a few patients, and this, occasionally, was followed by a certain improvement.

In the meantime, the work done by Bass and Johns on alveolar pyorrhea came to the attention of Doctor Sawyer and he accordingly began treating his patients for entamebic infection. Up to the present time he has examined 35 such cases and found the specific ameba in 26; that is, in 74.2 percent of these mentally diseased individuals. In none of these patients were the teeth found in perfect condition, even upon cursory examination, but in 3 they were fairly good; one of these three being of sound mind, but a sufferer from neuritis.

The mental state of these patients was interesting, 50 percent showing marked depression; 4, agitation; and 3, confusion; the general tendency in all being one of depression. Further, 13—or 50 percent—of these cases fell into the class commonly called melancholia, sometimes also defined as manic depressive psychosis. Doctor Sawyer treated all of the 26 patients, except 1 just admitted, with emetine, injecting 1-2 grain of emetine hydrochloride, daily for four days. In one case, ipecac tablets were employed, but Doctor Sawyer prefers the hypodermic method, considering it the easiest and surest method of giving the alkaloid to patients suffering from mental diseases.

Of the patients treated, 2 recovered rapidly and completely; 1 was slightly improved; 1 improved, but, owing to a kidney complication intervening, he relapsed, and stopped the treatment; 1 discontinued treatment after considerable improvement; the remainder are all improving. In no patient, however, did the emetine alone bring about recovery. On the whole, the emetine seems to remove the cause of the mental trouble and, in conjunction with other indicated treatment, such as hydrotherapy, massage, diet, exercise, besides other lines of medication, was found to be of great value.

In fine, Doctor Sawyer concludes that the entamebas are the cause of many cases of melancholia, or manic depressive psychoses, and that, when entamebas are present in patients suffering from conditions like these under consideration, emetine, by all means, should be employed.

EMETINE IN PYORRHEA

As was to be expected, there has developed in the dental profession a difference of opinion relative to the value of emetine as a cure for pyorrhea. The "opposition" is ably represented by Arthur H. Merritt, in an article appearing in *The New York Medical Journal* for August 7, last (p. 279). Doctor Merritt's position is based largely upon the fact that the accused amebas have been found present in virtually all mouths examined, healthy as well as unhealthy ones. In his own experience with emetine (which apparently has been limited to the treatment of 5 patients), the results have been disappointing, although improvement occurred in at least 4 of them. Nevertheless, he admits that it is too early to form any final conclusions concerning the role which the entameba may play in the etiology of pyorrhea or as to the therapeutic value of emetine in its treatment.

In marked contrast to the pessimism voiced by Doctor Merritt, there greets us the optimism relative to the emetine treatment expressed by F. E. Stewart, whose paper upon pyorrhea alveolaris is published in the same issue of the journal named. This writer quotes a long array of authorities and reports on clinical researches by physicians and dentists, as demonstrating the exceeding effectiveness of emetine; at the same time, however, expressing the belief that this alkaloid acts best when employed in association with bacterin-treatment, for the accompanying pus infection, and the local use of emetine-solution.

In this connection, it is interesting to read an article contributed by a dentist to the August number of *The Ladies' Home Journal*. While this was prepared for lay consumption, it nevertheless is ably written, and it clearly gives expression to the faith of a considerable portion of the dental profession regarding the curative value of emetine.

EMETINE IN PELLAGRA

We are happy to observe that our suggestion, that emetine might prove of value in the treatment of pellagra, is beginning to bear fruit. Thus, in the August number of *The Texas State Journal of Medicine*, in an article on this malady contributed by W. F.

Thomson, a letter is quoted from Doctors Blow and Hargrove, who write as follows:

"Having reached the conclusion that we are dealing with a condition produced by some parasitic organism, we cast about for the culprit. The recent work of C. C. Bass, Allen J. Smith, and others on the entamœba buccalis as the causative factor in pyorrhœa alveolaris, has suggested to us the possibility of a kindred parasite causing pellagra. With this in mind, we have recently given emetine to two patients, both in the second attack, with sore mouths and diarrhea. There was rapid improvement in these symptoms in both cases, and, under the influence of a strong protein diet, both patients are showing marked general improvement."

A few days ago, our friend Dr. E. H. Bowling, of Durham, North Carolina, called upon us when stopping over in Chicago for a day while on the way to the Pacific Coast. The Doctor told us of some very interesting experiences with pellagra, particularly with regard to the use of emetine, which he already has employed with striking success in a considerable number of cases of this disease. Doctor Bowling promises us an extended report of this pioneer work as soon as he returns from the West.

UNCERTAIN ACTION OF BENZOL

The fact that reports upon the action of benzol in leukemia vary so greatly seems to prove, according to W. Neumann, of Giessen (*Deut. Med. Woch.*, 1915, No. 15), that the personal factor constitutes a strong element. Consequently, he avers, therapeutists should aim to find some harmless agent, to be combined with benzol, that will counteract the leukotoxic action of the latter substance.

CONNECTION BETWEEN SKIN ANOMALIES AND PSYCHOPATHIES

That there is an intimate connection existing, many times, between certain anomalies of the skin and its adnexa and mental diseases, is the observation made (*Arch. d. Antrop. Crim.;* cf. *Muench. Med. Woch.*, Jan. 5) by G. Vidoni and S. Gatti, of Treviso, who have been studying some 500 insane persons. While not referred to in our authority, this relationship no doubt must be explained by a disturbance of balance between the secretions of the system of the endocrine glands. The following are some of the conditions recorded:

In dementia præcox, very often one observes white lines in the skin greatly resembling those of pregnancy. There also sometimes occurs an abnormal pigmentation of the skin and the hairs; which periodical forms, moreover, may coincide with the several attacks. So, also, a certain amount of pigmentation of the linea alba may appear with some psychosis, and leave with it. Thus, in many neuropsychopathic conditions, a congenital albinism and an acquired one is met with. The authors likewise have encountered numerous instances of herpes zoster among their dements.

Among the idiotic and those suffering from periodic mental derangement, the growth of the hair and the nails frequently is retarded to a remarkable degree. Hypertrichosis and hypotrichosis, besides other abnormalities of hirsute growth are of frequent occurrence among the insane and degenerate individuals, and may be found in association with various other organic abnormalities, as, for example, hermaphroditism. Degenerates may show nails, of fingers and toes, of irregular shape or greatly deformed.

WHITE BOLE IN DYSENTERY AND ENTERITIDES

Writing upon his observations made in the field hospital under his charge, Doctor Zilz (*Militaerarzt*, No. 4, col. 65), among other things, discusses the management, medical and sanitary, of ordinary abdominal disturbances, as also of dysentery.

Regarding these conditions, Zilz declares that highly gratifying results were secured from the liberal administration of white bole; this, in connection with a rigid diet. For the tenesmus, suppositories of belladonna were prescribed, sometimes fortified with opium for severe painfulness—although, on the whole, he rejects opium-medication in these diseases. While he knows, as he says, good animal charcoal to be superior to the clay, that article was not at his disposal. When these patients were transported on wagons, they were bedded on straw, and the latter was burned when the patient was removed; the vehicle was disinfected by washing with carbolic-acid water.

ICHTHYOL APPLICATION FOR FROSTBITE, ERYSIPELAS, AND OTHER LESIONS

Suggestions for the treatment of frostbite are always in order with the advent of winter-

time; so, the following note from Doctor Vanselow, at the time serving in a German field hospital (*Muench. Med. Woch.*, Jan. 12, 1915), may be of interest; the more so, since the writer not only bases his recommendation upon an experience of many years in private practice, but in that trying winter campaign in Flanders had widest opportunity for observation.

Ichthyol as a remedy for perniones is not new, of course; still, the special combination, as here presented, may be so to some, to wit:

Ichthyol (*ad lib.*, Gm. 1 1-2 to Gm. 2)	Gm. 1
Balsam of Peru	Gm. 2
(Or, when indicated, tincture of iodine, Gm. 2)	
Castor-oil	Gm. 1
Collodion	Gm. 20

The (of course unbroken) skin is liberally coated with this varnish. While the ichthyol and Peruvian balsam are remedial, the collodion, as is well understood, serves to empty the congested arterioles by itself contracting, besides forming a protective cover. The mechanical action of the oil requires no explanation.

W. Lueth, of Thorn, accords great praise to ichthyol as a remedy for erysipelas (*Deut. Med. Woch.*, cf. *Muench. Med. Woch.*, Jan. 26, p. 121), recommending that the entire area, and extending 1 cm. beyond, be thickly coated with the undiluted *freshly* made paste and then covered with cotton. Should the process extend, nevertheless, the application is to be repeated. The drying layer exerts a slight pressure through its contraction. As a rule the temperature drops rapidly, as prompt recovery follows.

The abstractor here permits himself to submit that ichthyol is not employed nearly enough as a local antiphlogistic and healing agent. This writer would not wish to be without it, his personal and individual experience extending over many years. Really, not rarely it seems to act as if by magic—so unbelievably rapid. And this action extends to congestive and inflammatory processes of all kind, whether of stasis, injury or infection, and including the mucous membranes. Thus, in this category, there fall lesions of the most diverse description—pimples, furuncles (notably those of the face, nose, hands), bruises, burns, angry margins of any sore, frostbite, sore nipple, tonsillitis, protruding piles; also refractory erosions of the mucosa of the buccal cavity (best preceded by H_2O_2 cleaning) and scabby sores inside the nostrils; moreover, more deeply seated painful inflammatory processes, especially of the smaller joints. Not infrequently a single application dispels a painful facial furunculous induration or sore inside the nostril or around a tooth.

Those who have not given this peculiar sulphur compound a full tryout will be surprised at the sometimes wonderfully quick and perfect action; and this can greatly be aided (where practicable) by covering it airtight with impervious tissue, thereby preserving it in a moist—hence, mobile, absorbable—state, while the moist (perspiration) warmth also is a great aid. A simple method often, is to smear the spot with a 50-percent dilution, then press on the shaped rubber tissue; or, the covering may be painted with a good skin-varnish and laid on, or, if a finger, wound around. And, by the way, nothing "beats" resinous skin-varnish and muslin strips for bandaging the tips of the fingers; being more pliable and adherent than is adhesive plaster. However, any rubber cement (e. g., for bicycle-tires) also serves excellently for this purpose. This expedient will be a "glad surprise" to many a one.

GALENICALS THAT "WORK WITH CLOCK-LIKE PRECISION"

Dr. W. J. Robinson, in *The Critic and Guide*, settles the argument in behalf of the galenicals in a very few words. In the October, 1915, number of his little journal, he says:

"The editor of *Physicians' Drug News* says that he would not be willing to throw away those 'galenical preparations that work with the precision of the clock.' Neither should we. But we should very much like to know the names of the galenicals which work with 'the precision of the clock.' We are afraid there aren't any such."

CHOICE OF VEGETABLE OR SALINE PURGATIVES

According to H. J. Campbell (*Practitioner* Aug., 1915, p. 169), vegetable purgatives find their chief application in the treatment of constipation in the young, while laxative salines are most frequently indicated in the treatment of constipation occurring after the age of fifty. Since saline cathartics interfere with the absorption of fluid from the bowel, on the one hand, and, on the other, cause an increased flow of intestinal secretion, it is essential that there be an abundance of fluid in the vessels or that plenty of water be drank with the drug. However, if the full depletory

effect of the saline laxative is desired, it must not be given in too dilute solution.

Saline laxatives also may be of special value for persons suffering from excessive weight, because their presence interferes with the absorption of food, especially of fats; which latter, in the case of a magnesium salt, give rise to the formation of insoluble soaps. In association with this loss of weight, providing the diet is restricted and regular exercise enforced, the general health will greatly improve. At the same time the work of the heart is sensibly reduced.

The laxative salines likewise are valuable in reducing the blood pressure when this is unduly high, on account of their power of depleting the vessels of an excessive quantity of fluid.

DISINFECTION OF TYPHOID EXCRETA

All typhoid excreta should be treated with disinfectants, and the best of these, according to Dr. Mark W. Richardson (*Boston Med. & Surg. Jour.*, July 29, 1915, p. 156), is heat, as employed in the steam-jacketed hoppers in use in large hospitals; or, also, it may be generated by means of unslacked lime, according to the method of Kaiser, as described in the November, 1912, number of CLINICAL MEDICINE (p. 1126). This latter method consists in diluting the stool with enough hot water to cover, then adding one-fourth its bulk of the quicklime and allowing to stand for two hours. It is said that the hydration (slacking) of the lime generates enough heat to destroy the typhoid organisms. The feces should be collected in a china or enameled receptacle provided with a suitable cover.

Chemical disinfection, according to Richardson, is best secured by mixing the excreta thoroughly with the following; carbolic acid, 5 percent; formalin, 10 percent; milk of lime or chlorinated lime, 6 percent. Not only should the stools be disinfected, but it is also important that the water with which the patient has been bathed likewise receive this treatment, inasmuch as it may be contaminated as easily as the urine or fecal matter. Any of the disinfectants mentioned may be employed for this purpose.

In addition to treatment of the excreta as advised, Doctor Richardson recommends internal disinfection with hexamethylenamine, this to be administered in 5- or 10-grain doses three times daily throughout the course of the disease. This agent probably does not influence the typhoid bacilli in the stools, but it is exceedingly valuable as a urinary disinfectant, and as such prevents the occurrence of cystitis, orchitis or epididymitis during the course of the disease. While typhoid bacilli are rarely present in the sputum, yet, this complication does occur frequently enough to warrant routine disinfection of the mouth and the oral and nasal discharges. Also, every typhoid patient should have his own, exclusive dishes and toilet-articles, all of which should be subjected to rigid supervision.

For the disinfection of the room (or rooms) occupied by the patient, Doctor Richardson puts greatest confidence in fresh air and sunshine, together with a generous application of soap and water, and a maximum utilization of fire, steam, boiling water, besides some chemical disinfectant, such as carbolic acid in 5-percent solution.

The most important factor in the whole problem of disinfection is that of the hands of the patient and of those dealing with him. The typhoid-carrier not infrequently, as a result of uncleanly habits, may infect the food of many people. Our most effective hygienic slogan in dealing with typhoid fever, writes Doctor Richardson, is: "Wash your hands before handling food, whether it be for yourself or for other people's use."

STATISTICS ABOUT TYPHOID-CARRIERS

From statistics compiled by Mondolfo (*Riv. Crit. Chir. Morg.;* cf. *Militaerarzt*, No. 4, col. 63), the following data concerning carriers of typhoid bacilli are of interest:

The typhoid-bacillus was demonstrable in the mouth secretion in 78.5 percent (28 cases) of convalescents from typhoid fever. Neither the severity nor the duration of the attack had anything to do with the phenomenon. The pathogenic bacilli persisted in the mouth, in one person for more than two months, and even as long as nine months in another instance.

The bacilli far less frequently persist in the feces and the urine; the ratio among the persons observed being: saliva (as shown above), 78.5 percent; feces, 21.4 percent; urine, 14.2 percent.

FLUORESCEIN FOR TESTING THE PENETRABILITY OF THE TEAR-DUCT

H. Lystad has applied the method of Schirmer for testing the penetrability of the tear-duct, and has found it (*Norsk Mag. f. Laegevid.;* cf. *Muench. Med. Woch.*, Apr. 27) simple and entirely effective, both experimentally and in practice.

The sterilized solution is composed of fluorescein, 0.2; potassium carbonate, 0.35; water, 10 Grams. A few drops are deposited in the eye (no anesthesia) and then a sound carrying a pledget of absorbent cotton is introduced into the nostril, the wad to rest near the exit of the duct. If the latter is penetrable, the cotton, which is to be examined about, every three minutes, will become stained. Lystad has similarly employed a 5- or 10-percent solution (freshly made) for the same purpose.

The period for the fluid to penetrate the duct varies with the age, but averages about as follows: under 10 years, 1 1-3 minutes; at 10 to 20 years, 2 3-4 minutes; at 30 to 40 years, 3 1-2 minutes; at 40 to 60 years, 4 1-3 minutes.

CAUSES OF DEATH FROM SALVARSAN

According to Ivan C. Dreyfus, as quoted in *The American Journal of Urology* for May (p. 186), a healthy liver is the *sine qua non* in salvarsan-therapy. When the liver is sound, it has the power of storing large quantities of poison and then discharging them into the circulation in small amounts. If for any reason the liver's storage-capacity is interfered with, there is danger of "overflow" into the circulation, whereupon the salvarsan exerts a direct and dangerous influence upon the kidney, resulting in tumefaction of its mucosa and diminution in the output of urine. There may be albuminuria, cylindruria, and even hematuria; arsenical intoxication, resulting in death, is very likely to be the terminal result.

Dreyfus believes these toxic phenomena to be due to an oxidation-product (paraaminophenylarsenoxide), formed when the liver can neither fix nor detoxicate and the kidney cannot excrete the drug. The chief causes of liver insufficiency are alcohol and pregnancy, as shown by the large proportion of salvarsan-deaths in alcoholics and pregnant women.

THE PROPHYLAXIS OF SCARLET-FEVER

We find an exceedingly interesting article upon the prophylaxis of scarlet-fever in *The Indianapolis Medical Journal* for June (p. 243), contributed by our good friend Dr. George L. Servoss. This article contains an excellent review of the common methods of preventing the disease, with a statement of some of the newer expedients. Among the essentials named are: segregation of the patient in a suitable room, presence of a trained attendant, and special care in the disinfection of bed- and body-clothing and of dishes and other exposed objects, bearing in mind that the infective material is carried mainly in the discharges from the mouth, nose, and bronchi.

Doctor Servoss gives an interesting résumé of the use of streptococcic bacterins for securing specific immunity, citing the experience of a number of clinical investigators who have employed them prophylactically with alleged good results. A number of references are made to the Russian literature. The report of Yemelanoff is typical: An epidemic is reported, in which 8 or 10 new cases were appearing every day, and a whole village was infected. Quarantine regulations could not be enforced. Finally, 610 children were given the prophylactic bacterin, and of these not a single one contracted the disease. There are many other reports of this character.

In view of the interesting experience obtained by those who have used prophylactic scarlatina-vaccine, it is surprising that it is not more largely employed in this country.

Doctor Servoss, in this paper, neglected to call attention to the great value of calcium sulphide as a prophylactic in scarlet-fever. Saturation with this drug has proven very effective in cutting short a goodly number of epidemics. The remedy is cheap, easily obtained, harmless, and so effective that it should be the first resort of every physician for the treatment of scarlet-fever—making sure, though, of dealing out tablets that can be relied upon, seeing that so much of this article in commerce is well-nigh worthless,

GAS-GANGRENE IN THE WAR-ZONE

There already has grown up a rich literature on the occurrence and management of gas-gangrene among the wounded soldiers in France and Flanders, as well as in the Russian war-zone. This complication is one of very common and unprecedented occurrence in the present war, especially when the wounded are allowed to remain upon the field for some time uncared for. Alexander Fleming (*Lancet*, Aug. 21, p. 376) has made a careful bacteriologic study of 32 cases of this complication, and has found the bacillus aerogenes capsulatus uniformly present, and generally in association with the common pyogenic bacteria. Doctor Fleming concludes that the presence of the pus-organisms undoubtedly is a factor in the rapid reproduction of the bacillus aerogenes. The latter organism has

been demonstrated in nearly all wounds, but it is only rarely that it seems to exert its full pathogenic action.

The condition most favorable to the growth of the gas-bacillus is, the presence of a considerable amount of dead material or of a blood clot in the wound, this furnishing an admirable culture-medium for the bacillus. The organism grows readily on blood, and produces a considerable amount of lactic acid, which latter exerts a very potent influence upon the leukocytes, in that it prevents their emigration and thereby creates a vicious circle—the greater the growth of the bacillus aerogenes, the greater the production of lactic acid, consequently the smaller the protective leukocytic emigration.

It is rare to see gas-gangrene develop in a patient whose wound has been opened and drained. Once established, the progress of the disease is very rapid. In all the cases seen by the author, the gas-gangrene developed on the upper or lower extremity.

BACTERIN-TREATMENT OF SEPTIC CONDITIONS OF THE SKIN

The bacterin-method of treatment is proving quite effective, according to Madden (*Lancet*, Aug. 7, p. 267) in various septic conditions of the skin and lymphatics, such, for instance, as impetigo, sycosis, cutaneous erysipelas, lymphangitis, eczema with serous or purulent tendency, and pustular acne.

In simple acne, Madden affirms, results are many times really astounding, benefit being most often derived from a mixed acne-bacterin that contains staphylococcus albus or aureus as well as the acnegenic organism.

Associated treatment of value consists in the local use of sulphur lotions, washing with hot water and sulphur soap, facial massage, and the expression of the blackheads. Anemia, if present, must be combated with appropriate treatment.

THE OPERATIVE TREATMENT OF EXOPHTHALMIC GOITER

In a dissertation on exophthalmic goiter, Bruno Glaserfeld (*Grensgeb. d. Med. u. Chir.*, Bd. 28, H. 1; cf. *Muench. Med. Woch.*, Jan. 26, p. 119) says that the operative procedure —ligature of the artery, resection of the thyroid gland, strumectomy—must be decided upon according to the severity of the clinical picture, as fixed by careful examination at repeated inspections, and that a preparatory course of building up the patient is of greatest importance. In its earliest stages, internal therapy is the proper course, but as soon as the symptoms become aggravated operation must be decided upon.

In the milder cases, postoperative symptoms do not occur, but may be looked for in the severe ones, owing to the disturbed condition of the nerves. The mortality is zero in mild cases, but averages 5.4 percent when the condition is grave—this latter figure admitting of reduction when one counts cardiac degeneration and cachexia as contraindications to surgical intervention. The successes attained are more or less relative, for, the subjective states of the patient must be taken into account. Out of a total of 534 goitrous subjects operated upon—most of them observed for several years afterward—nearly 82 percent were cured or at least materially benefited; the failures being principally in hysteroneurastheniacs. Relapses were observed in 4.7 percent. The author is not clear as to the role of the thymus gland.

In the paragraph which follows, another aspect of this problem is presented.

EXOPHTHALMIC GOITER: OPERATION VERSUS ROENTGENIZATION

In view of the splendid results attained by him in 23 cases, H. von Haberer, of Vienna (*Wien. Klin. Woch.*, Nos. 1 and 2, 1915), considers simultaneous reduction of the thyroid and thymus glands as the best treatment in exophthalmic goiter; and he adduces as negative proof the unfavorable results in one instance in which a relatively too small proportion of the two endocrine glands had been excised.

The author, therefore, proposes that at the operation the exact size of each of the two glands be determined and thence the amount of reduction fixed upon. Should thereafter threatening symptoms make their appearance, a further diminution of the organs must be considered.

Doctor v. Haberer urgently cautions against the x-ray treatment of victims of Basedow's disease before an operation has been performed, for the reason that it is unreliable, sometimes even harmful, and withal only will postpone the imperative timely surgical interference.

PHARMACODYNAMIC VALUES OF DIGITALIS PREPARATIONS

By means of biologic experiments (frog-heart), the famous Rostock pharmacologist, R. Kobert, has sought to determine the rela-

tive hemolytic properties of various medicinal forms of digitalis, the results of which he made public in the *Apotheker-Zeitung* (1914, No. 70). It may be observed here that the dissolvent of the erythrocytes is the saponins present in digitalis. These are some of Kobert's findings:

None of the infusions of any of the different kinds of digitalis acted upon the red corpuscles, even in a dosage of 80 to 100 milligrams of the leaves steeped in 10 Cc. of water. The infusion of the dry leaves contains no active saponins. All the official tinctures of digitalis tested by Kobert acted hemolytically.

The hemolytic power of the tinctures increases with age; consequently, a progressive decomposition of some kind must be assumed; and these facts may bear some relationship to the other fact established, namely, that tinctures deteriorate upon being kept for some time. Tinctures prepared with 96-percent alcohol and from fresh leaves, as suggested by Kobert, are more potent than the strongest official ones. A fresh-leaf tincture made in October is stronger than one prepared in the summer. If for any reason the leaves are to be dried before extracting, it is advisable to make up only a limited supply for the summer season, and to prepare a fresh lot of tincture in October, to last over winter and till next summer.

Of course, the digitalis preparation of choice should be one free from saponins, like digipoten, for instance.

RAYNAUD'S DISEASE

Maurice Raynaud, who first (in 1862) described the condition bearing his name, had a pretty nearly correct estimate of its pathogenesis. He characterized it as a "symmetrical gangrene of the extremities," and believed that the local symptoms are caused by spasm of the capillary vessels, which shut off the circulation more or less permanently from the affected part. According to Oliver T. Osborne (*Amer. Jour. Med. Sci.*, Aug., 1915, p. 157), no pathologic changes in the blood-vessels have been discovered in conditions of this kind, so that, evidently, this disease is the result of a local spasm, which, however, may affect the arterioles or venules, or both. If, under these circumstances, the arterioles are contracted, the cyanotic type of congestion occurs, preceded by an anemia; if the venules alone are contracted, a red, congested form may occur.

In order that one may avoid errors of diagnosis, owing to an atypical form of the condition, Doctor Osborne points out the degrees of severity of Raynaud's disease encountered, these being about as follows:

1. The condition may be so mild as not to be recognized. Such patients have cold hands and feet, irregular pains in various parts of the body, and they feel cold in winter and hot in summer (vasomotor ataxia, as it has been termed). There may be so much contraction of the peripheral blood-vessels that the internal vessels, especially the abdominal, are dilated, owing to which diarrhea frequently occurs (sometimes termed "intestinal sweating"), the patient having a diarrheic discharge in the morning, but no other symptoms. Or, there may be such abdominal congestion as to give rise to various other disturbances, notably albuminuria and gastrointestinal troubles. This kind of congestion or spasmodic contraction of blood-vessels is probably often the cause of ovarialgias, delayed and painful menstruation, and menorrhagia.

2. There are cases of medium severity, in which the subject is troubled with ice-cold hands and feet, and he may have chilblains of varying degrees, sore fingers and toes, suppurations around the nails; or, there may be erythromelalgic symptoms of red face or red hands, with or without pain in the latter. Furthermore, he may, perhaps, have severe headaches; there may be faintness or syncope, dizziness, and some slight nervous disturbances (as of the eyes); recurrent albuminuria and hematuria are possibilities. This condition may, conceivably, be one of the causes of albuminuria of adolescence and of orthostatic albuminuria.

3. These are the severe forms, occurring less frequently, in which there may be serious cardiac disturbances, serious cerebral manifestations, severe abdominal symptoms, as well as deep ulcerations of the fingers and toes.

4. Here may occur, although very rarely, such serious and uncontrollable spasms of the blood-vessels as to produce gangrene and sloughing of parts of the extremities. It is also conceivable that fatal heart attacks may be caused by this syndrome. .

DIAGNOSTICATING CONGENITAL SYPHILIS IN INFANTS

M. Soldin and F. Lesser, of Berlin, maintain (*Deut. Klin. Woch.*, 1915, No. 15) that a negative Wassermann reaction in suspected congenital syphilis in an infant does not establish a positive diagnosis: the mother's blood in that case also must be tested.

Miscellaneous Articles

Aborting Double Pneumonia

I AM well aware of the fact that the reading of this headline will evoke a feeling of incredulity in the minds of many doctors; nevertheless, I make the affirmation in the firm conviction that I am correct in my diagnosis of this disease as well as most successful in its treatment. Many years of experience in country and city practice alike have taught me some lessons that I never learned in any medical college. Good old Doctor Nature is the best teacher; and human nature in all its aspects furnishes a field of study as enchanting and instructive as it is unlimited. But to my subject.

Doctor Osler says that pneumonia takes off one in four or five of all its victims. Doctor Ellingwood tells us that we ought to lose not more than 5 percent of our patients in eclectic practice—at the worst, not over 12 percent. I use mainly the eclectic remedies and the alkaloidal granules. I always carry the latter with me. But I am not irrevocably bound to any "pathy." A careful study of all the conditions, as manifested by the symptoms, and a skilful use of the remedy indicated, together with plenty of tongue-treatment, embraces my armamentarium.

Occasionally I have aborted the disease when it had attacked only one lung—especially in young and otherwise healthy persons. Some four years ago, I aborted pneumonia in a patient in whom the upper lobes of both lungs were attacked—first the left, then the right one. This case I reported in CLINICAL MEDICINE and thereupon received letters from doctors, telling me it "could not be done." For, it was contrary to Osler's or some other noted professor's observation.

Lately I have absolutely jugulated double pneumonia closely following upon a miscarriage at two months. The patient was a young married Mexican, the mother of three children. I was called soon after the initial chill. The message said, "Fever is very high." I went prepared for a curettage, supposing septic fever had set in. But, to my surprise, both lobes of the left lung and the upper one of the right were involved. The temperature stood at 103.5° F., pulse ran 120, respirations were about 45 per minute—in fact, I could hardly count them. Pain on breathing was as severe as it was symptomatic. Moaning and sharp outcries were frequent, especially upon coughing or moving. All the leading classical symptoms of pneumonia were plainly in evidence. The flow from the uterus was as it is normally following the miscarriage of a week previous. The loss of blood had been about ordinary, and there were no other complications.

My usual treatment for pneumonia was employed in this case, which is as follows: I cover the involved lung with thick, hot antiphlogistine plasters, clean out the bowels with the podophyllin and bilein compound and keep them clean with the sulphocarbolates (intestinal antiseptic); then use the other standard remedies—atropine, bryonin, asclepidin, ipecac, veratrum, aconitine, digitalin, and so on—only as indicated. I never prescribe opiates, and liquors very seldom. No routine method is ever followed. I lay great stress upon limiting the intake of all liquids, especially water (on which this malady thrives), during the first stages of the disease; also give the patient plenty of fresh air, besides keeping everyone out of the room, except the nurse. Dolor-pyrine to diaphoresis robs the disease of its essential food. A little malted milk or similar nourishment is given only when absolutely necessary to keep up vitality. Even this must be well "masticated."

In this way, I jugulate, shackle, and starve out the disease both by natural and therapeutic means, meantime doing all I can to keep up the patient's vitality. Under this treatment, I do not lose more than 2 percent of my pneumonia-patients. I do lose, however, the opportunity to run up a big bill. Still, I can stand that, for my financial loss is the patient's gain, while I have maintained a clear conscience and helped to educate and elevate our noble profession. I believe that

this sort of giving enriches, not the receiver alone, but likewise the giver and the world.

S. J. Brownson.

Fort Worth, Tex.

"JUST A COUNTRY DOCTOR"

In going over my September number of Clinical Medicine, I was greatly interested in the following passage:

"One of our correspondents puts up to us a rather novel and interesting problem. He is practicing in a provincial town, and during the summer finds that he has a good deal of spare time on his hands, which he would be very glad to turn to some other profitable account—not that he is so desperately in need of the extra money it would bring him, but he feels that as long as he has all this time to spare, and a fair share of intelligence and ability, and the will to turn them to account, there ought to be some channel for doing so. But—there's the rub—he cannot connect with any such channel. So, there he is obliged to sit—idle, restless, eager to capitalize his brains and his time, and with no means, so far as he has been able to compass, of doing so.

"Here, we repeat, is a very novel and interesting aspect of the doctor's economic problem. Possibly—indeed, quite likely—others of our 'family' have found themselves in the same position; and possibly some have found the way out. If so, both our correspondent and ourselves would be glad to hear from them. We should like to hear from them, anyway, on the question."

This was exactly my condition; and now I will tell you what I have done in my own case.

Having a large house, fine large lawn, and a beautiful pine-grove, I receive patients into my home and call it the Maquan Sanatorium. In this connection, I want to call attention to the success attained by two "plain country doctors," the now famous Mayo brothers as shown by the following clipping:

"In these days of great gifts to education from funds that were amassed in ways not too innocent, it is refreshing to learn that the Mayo brothers have given $2,000,000 to the University of Minnesota, together with what is probably the finest equipment for medical research in the world. The very size of the gift shows how wealth as well as fame has come to two country physicians, sons of a country doctor. In their case, it was not necessary to move to some center of influence and publicity, a great city. The world found its way to their door, because they had something of knowledge and technic that the world needed. The pilgrimage of 3000 physicians a year to Rochester, Minnesota, is itself a splendid tribute to the genius of the two brothers."

Now the influence of the two enterprising men will be perpetual, through their endowment for medical training and research.

I also have taken up public-health work—being school physician, inspector of meat, and inspector of animals. For many years I have been the town physician (to the poor of the town). I have taken an active interest in town affairs. Have organized a grange, farmers' club, and improvement society. Having seven acres of woodland and two under tillage, I devote some of my leisure to farming and forestry.

I am also active in social and economic reforms.

I have raised and educated two children.

I think my life has shown that a "country doctor" is not "obliged to sit idle, restless, eager to capitalize his brains and his time, and with no means of doing it."

Flavel S. Thomas.

So. Hanson, Mass.

WHICH IS RIGHT?

"Also, we are familiar with the almost invariable rejuvenation of an old man who marries a vigorous young girl, or of an old woman who purchases the affection or, at any rate, the marital companionship of a lusty youth. In most instances, these elderly people seem to acquire a new lease of life."—Dr. Edwin F. Bowers, in Clinical Medicine for September.

Excuse me for picking up Doctor Bowers again, wherein I hope to be absolved from any untoward feelings, since it only happens as one of those "singular coincidences" that I have another criticism to make on his statement—but *not* concerning tobacco this time, as you will note.

To make the matter short, I wish to say, with reference to the above quotation, that both my own observation and all I have read on the subject prove the truth of the exact opposite of what Doctor Bowers is here saying.

Are you jesting, doctor?

I ween it is true that youth thus steals from age rather than age from youth. Yet, it would be interesting to learn what the observation of others on this matter teaches.

A. P. Reed.

Boston, Mass.

EMETINE IN PSORIASIS ASSOCIATED WITH PYORRHEA

I have been using emetine in a case of psoriasis occurring in a man 59 years of age who has had this trouble for years, especially on the scalp, around the forehead and in scattered spots over his limbs. Along with this skin trouble, he has had pyorrhea for some years, in a mild form.

I have been giving the emetine hydrochloride, hypodermically, in 1-2-grain doses; not regularly, but rather intermittently, as the patient would forget to come in. Results began to show within two weeks after the

initial injection, and now (three or four months later) the lesions practically are well. In addition to the hypodermic injections, I have used an ipecac solution as a mouth-wash. The man's general health is better, also.

I have used emetine in another case of psoriasis, unassociated with pyorrhea, but no noticeable results have followed. I believe that it takes some months to get marked results.

CHAS. B. KERN.

Lafayette, Ind.

EMETINE IN HEMORRHAGE FROM UTERINE CANCER

I have had a very satisfactory experience with emetine in a case of hemorrhage from cancer. A lady, aged 60, afflicted with cancer of the stomach, intestine, and liver, had frequent and severe hemorrhages from the stomach and the bowels, which I was unable to control until I began giving emetine hypodermically. The first injection checked the bleeding absolutely in less than ten minutes, and the effect seemed to last about forty-eight hours. These injections were repeated at five different times, and seemed to have only a pleasant effect. Of course, the poor woman had to pass away, eventually.

J. O. MORRISON.

Anderson, Ind.

OIL OF CASSIA AS A HEMOSTYPTIC

In the August number of CLINICAL MEDICINE (p. 766) Dr. C. C. Matthews recommends a carbolized solution of alum and permanganate as a sure hemostyptic. Not doubting its value, I believe, though, that I have a remedy that will be preferred by most doctors; for, while it may not do the work any more quickly (and, still, it may), it certainly is much more agreeable to use. This remedy is simply oil of cassia, taken in 3- or 4-drop doses. This I learned from an old German doctor about twenty-eight years ago. I have never had a failure with this remedy, whether it was a case of nosebleed or of postpartum hemorrhage. I will describe one case.

A boy 12 years of age had profuse nosebleed, and two regular physicians were in attendance. The boy had bled till everything about the room had the appearance of a slaughter-house and he was so exsanguinated that he could not lift a hand. The doctors had tried all manner of procedures, without result. At last I was called in, and I gave him a few drops of the oil of cassia on his tongue (I usually give it on a little sugar), whereupon the bleeding stopped like magic. The boy never suffered from the nosebleed again, although he had been subject to frequent attacks up to that time. I could recount many other instances, and with like results. Try this, and you will get results; moreover, it is pleasant.

G. F. PARKE.

Junction City, Oreg.

THIS IS HARD LUCK, INDEED!

Having been able, in three states and three years of practice, to get only ten cents on the dollar out of the practice of medicine, I, naturally, have become introspective and skeptical and very anxious to know what to do. Recently you had several articles about this business-problem. Can you point out to me which way to turn, in order to make a living as a first-class, honest, absolutely undissembling Doctor of Medicine and Surgery?

At present I am teaching school.

Q.

——, Texas.

[Can any reader of CLINICAL MEDICINE help this good brother?—ED.]

ONE OF OUR FRIENDS WINS A PRIZE

We learn from *The Sylvan Valley News* that Dr. C. W. Hunt, of Brevard, North Carolina, has immortalized himself by winning a prize of $250.00 offered by the Anheuser-Busch Brewing Company for a title for a picture mailed to physicians last spring.

The picture shows a cottage on a hill, lights ablaze in every room, with a typical country doctor hurrying up a trail leading to the house, the moonlight throwing his shadow upon the ground; the old doctor, dressed in oldtime garb, walking up the path with long strides, his medical satchel in his left hand, his right hand under his chin holding his eyeglasses, his right elbow bent and extended, an oldtime umbrella pointing from his elbow, and his body bent in such a position that the whole throws the shadow of a stork on the ground in the moonlight, its bill extended toward the cottage on the hill. The title for this picture was to be suggested by the doctors, and the selection was to be made by a committee of eminent men.

Doctor Hunt's suggestion was, to call the picture "On the Honeymoon Trail," and, out of more than twelve thousand suggested titles, this one was chosen as the best among them all. Accordingly, he was the lucky winner, and has received a check for $250.00, in good and lawful money.

ECHINACEA IN PERITONITIS FROM UTERINE INFECTION

In the August number of CLINICAL MEDICINE (page 782), Dr. R. J. Smith relates an unfortunate experience in the case of rupture of the womb, at childbirth, and subsequent septic peritonitis. I wish to suggest the hypodermic use of echinaces, as put up by Luyties, of St. Louis, might have benefited his patient. This remedy (in ampules) has served me well in a similar case, used in connection with hot antiseptic douches, and Abbott's vaginal antiseptic inserted in the vagina after douche.

"The anticonstipation granules are the best I've ever used," so says one of my patients.

F. J. BURNS.

Annapolis, Ill.

"JUST ENOUGH"

The suggestion made by Dr. A. H. P. Leuf, in the August CLINIC (p. 716), to the effect that physicians who dispense their own medicine should "give just enough to last till you see the patient again" is excellent advice. This remark reminds the writer of a reply that he once heard given by a waggish man who was provided by nature with a very florid complexion and a prominent red nose that was well calculated to convey the impression that the owner thereof indulged too freely in the ardent. The writer was well acquainted with the gentleman, and he never saw him take a drop of liquor or saw him under the influence of liquor.

On one occasion, a certain clergyman who was a vociferous advocate of temperance accosted this man on the street and proceeded to lecture him, warning him of the danger (?) he was in and advising him to abstain from his indulgence in spirituous liquors ere it was too late. The man took the advice good-naturedly, and said to his would-be redempster that a physician had advised him, some years ago, to take a little spiritus frumenti for some particular ailment, and to take some of it daily until he saw the doctor again; that, however, he had not seen the doctor again since; for, he added after a sly pause, the doctor had departed this life some three or four years ago.

GEO. D. STANTON.

Stonington, Conn.

EMETINE IN DYSENTERY: A DOCTOR'S PERSONAL EXPERIENCE

I'm glad to attest that the emetine-treatment proved the proper means of bringing me relief in my attack of dysentery. Its effects are truly wonderful. We have had some fatal cases here, which, I'm sure, would have been amenable to proper treatment, if it had been employed. One of the victims—a bright, beautiful girl, sixteen years of age, died within a few days. The local paper, speaking of her death, said, "God loves a shining mark." The preacher also held the Creator responsible.

So, it is now as it was in the ancient days—ignorance and superstition hold sway in various forms, and death is sure to follow, whether it be the destruction of some beautiful physical human form or the blotting-out of some helpful ideal that was needed for the glorification of the race.

WALTER SCHENCK.

Wauchula, Fla.

SOME MAN!

Here is an instance of the class of men that are produced in Elgin County, Ontario. The subject was a patient under my care, and when he died it was found that he weighed 569 pounds, had a waist-measure of 9 feet and his chest measured 8 feet around. The hearse not being large enough, the casket was placed on a dray, by the help of twelve men.

HUGH JOHNSTON.

Port Burwell, Ontario.

SARATOGA AS A HEALTH-RESORT

For half a century or more, Saratoga has been a great popular resort for invalids and travelers. The mineral springs have been the great attraction, the waters being heavily charged with gas and containing large quantities of bicarbonate of sodium, magnesium, salt, and iron. Their location at the foot of the Adirondack Mountains and the proximity of Saratoga Lake added to the attractions. Horse-racing became a prominent feature of the summer season, and with it objections that repelled the better class of

invalids. Then came some very avaricious companies, who drove wells here and there, pumping out the gas and selling it in the large cities, and this changed the character of the mineral waters materially. Finally the state of New York established a commission to buy the springs and make a state reservation of them.

Over a million dollars has been expended in spring properties, land, and buildings, and in the development of a great state health-resort, in which the baths can be made available for all classes of people. The object was, to establish a national sanatorium for hydrotherapeutic work, on a scale exceeding that of German spas and government baths.

The citizens of Saratoga, realizing the purpose, united very warmly with the Commission, appropriating parks and properties, closing some springs and enlarging and developing others. The commissioners, realizing that the work would have a great future if projected on broad plans and with scientific accuracy as to results, have laid out large tracts of land and established a permanent commission composed of scientific men, whose studies and efforts are to make available every variety of mineral water of that region. Within a radius of a few miles there are a large number of sodium, magnesium, and iron springs, all very heavily charged with carbon dioxide. Some of them contain calcium, potassium, sulphur, and ammonium. In all of them, there is a very marked radioactivity, and an undefinable stimulation comes from their use, which is yet to be studied.

During the last year, the state has opened a large bathing-pavilion, where all sorts of baths are given, particularly the Nauheim, together with a very large outdoor swimming-pool for both sexes. The bath which seems most prominent medicinally is the carbon-dioxide, or Nauheim, bath. The water is pumped directly from the spring and heated to the temperature desired by means of steam-coils. The patient, reclining in this, surrounded by gas ebullitions which cause a prickling sensation of the surface of the body, is immensely stimulated. Undoubtedly there takes place a great absorption of bicarbonate of sodium and magnesium through the skin, and this has a pronounced effect. Drinking the waters at the same time, practically charges the system with chemicals which go far toward restoring the disordered condition.

Other baths of mineral waters that contain different constituents are given, together with the iron-moor baths so highly recommended abroad for rheumatism and gout. These contain a decomposed vegetable matter, charged with iron and gas waters. Brine-baths and sulphur-baths of all degrees of temperature and varying mineral strength are provided.

It would seem that hydrotherapy has never been developed on so large a scale and with such perfection and scientific accuracy as here. The commission has a medical superintendent who gives his whole time to the interests of this work and the promotion of facilities for rich and poor to avail themselves of these marvelous rich waters. Dr. Albert W. Ferris, who was formerly one of the lunacy commissioners of the state of New York, is the superintendent. The Doctor, with others, before the war, made an exhaustive study of the bath-systems of Europe, with the view to developing a great spa for American invalids, on the largest and most perfect scale.

It has been recognized that an army of invalids were the most numerous patrons of European springs for many years past. Over 30,000 were registered in 1912 at the different springs in Germany. The war has stopped this, and now the commissioners' work to build up a great popular bath-resort in this country has already attracted an increasing number of persons.

In this country, there are innumerable springs of all grades, but so far they have never been managed with scientific accuracy or developed on other than along commercial lines.

In England and on the continent, inferior springs have been developed by towns and cities and most elaborate bathing facilities have been provided. Physicians in attendance have prescribed the number of baths and time of taking them with great minuteness, until hydrotherapy has developed into an art-science, far beyond anything seen in this country. The Saratoga commission purposes to follow these great systems and to establish an American spa for invalids on a scale proportionate to the size of our country.

One fact is already evident at this early stage, namely, that the gas-baths are going to be very prominent in the treatment of heart and circulatory disorders. Another fact is, that the radio value of these waters is going to be studied, and experiments are to be made that will determine their medicinal value. All persons visiting the East should stop off at Saratoga and become acquainted with this new movement that is the beginning of a hydrotherapeutic work that will extend to every state in the Union.

Saratoga will be the ideal place and pioneer field for the promotion of the health-giving properties of water. The state of New York does things on a large scale and with a degree of accuracy that promises great advances in the future.

While the middle and the far west have many springs of great value, they all lack the development and utilization which has begun at Saratoga, and which will grow into a degree of perfection in the near future. Persons interested in this great movement should write the Reservation Commission of Saratoga Springs, and secure a last report.

T. D. CROTHERS.

Hartford, Conn.

A HEMORRHOIDAL OPERATION

On May 26 I was called to another city to operate on a man 70 years of age, the trouble being hemorrhoids, both external and internal, of 20 years' standing. General anesthesia was contraindicated, on account of the patient's age and his heart condition.

At 10 a. m. I gave him one No. 1 H-M-C tablet, and at 10:30 I gave him one No. 2 tablet. He walked to the operating-room, I prepared him for the operation, dilated the sphincters, removed several internal and external hemorrhoids, and not a bit of pain was felt by him. Then he walked back to bed in a semiconscious condition, and was amazed, when he came to, to find the operation completed.

I cannot be too profuse in my praises of H-M-C as an anesthetic, especially where general anesthesia is contraindicated.

HARRY E. DUFFEY.

Atlanta, Ga.

KEROSENE-ENEMAS

Reading in a late CLINIC about various experiences with kerosene-enemas, I am tempted to speak of one of mine that possibly may prove of interest to some of your readers.

In the summer of 1896, a boy 7 years of age was taken violently ill, and when I first saw him his temperature registered 103° F., respiration was 125, he was very nervous, always asked for water, but vomited everything he ingested; the abdomen was greatly distended and tympanitic. I learned that he had not had a passage for five or six days, also that the bowels had been poulticed for six or eight hours with peach leaves. Deep pressure revealed high, up in the bowels, a hard mass of about the size of a large base-ball, but much elongated. I was told that, before the attack, the boy had been playing in the wheat-field for several days. He had been given salts and castor-oil several times, but without results.

I saw at once that we had to do with an extreme case of impaction in the transverse colon, so, got busy to remove it by means of enemas. At first I used a strong solution of salt in warm water, which I had great difficulty in injecting; but it brought away only a few very hard clay-colored balls. These enemas, with the addition of soap, were repeated several times, but nothing further came away, and the hard mass above remained untouched. Meanwhile the patient grew worse, and began to vomit a dark-green offensive substance. I told the father that the boy was in an extremely critical condition and that I was obliged to resort to extreme measures.

I was considering what kind of oils could be used to advantage—was there anything that would penetrate a brick wall? Finally, I concluded that, if anything would, it would be kerosene. I determined to try it. I called for the oil-can, filled the half-gallon fountain-syringe two-thirds full with the coal-oil, then hung the bag high up on the wall. I got the colon-tube from my emergency-bag, disinfected it, oiled it, then placed the little sufferer in knee-breast position and proceeded to insert the tube. This accomplished, I inserted the nozzle of the syringe into the colon-tube, then let the oil flow. Meantime the nurse was trying to hold his temperature within the bounds of reason by means of cold spongings and big fans.

It had taken so long to get all the kerosene in that I was fearful of the result. I did some manipulating, trying to alter the disposition of the intestinal coils. At last the contents of the syringe had gone somewhere through the colon-tube, and I was anxious to get the right results. I withdrew the tube, but kept the little fellow on all fours for a little while longer. Then, after a while, I placed him in a more comfortable position—for better or for worse. I made him lie as still as possible, when, in about half an hour, I noticed that flatus was beginning to escape, and, putting my ear to his abdomen, I could hear a little gurgling and creaking sound in the upper belly. With hopes raised, I began to do a little rubbing, with deep pressure, along the course of the transverse colon, when, all of a sudden, things began to happen, and I never in all my life saw such a mess and mass—green,

slimy grains of wheat, beards from the ears, besides a lot of other stuff of an offensive nature—voided by any person of his age. The battle was won. The lamp-oil did it. Everybody was happy.

When the boy felt better, he confessed to having eaten the wheat while out in the field. The child continued a little feverish for about a week, but I kept him on castor-oil given twice a day, and that ended the trouble.

Since this striking experience, I never hesitate to resort to the kerosene-injections in all cases of fecal impaction. I have made use of them in children whose bowels were impacted after eating mesquite beans, which are very prone to give rise to this trouble. I have often used it introduced through the colon-tube, for inflammation of the appendix, and I always get good results.

However, kerosene has other virtues. Thus I have used it in snake bite in live stock, and found it the best thing that I ever tried. If applied early for snake bite in a horse, wrapping the wound with a soft cloth and keeping the place saturated with the oil for a few hours, you will have but little swelling and your horse will not care much for a rattler's bite. In fact, I believe it is a good remedy for any poisonous insect bite or sting. I believe it would be a good remedy for gangrene. Do not be afraid of kerosene. Give it a fair trial and you will not regret it.

But, as you have well said, you should have an extra supply of rubber tubes and syringes, for coal-oil will ruin all rubber with which it comes in contact; worse, even, than do oil, fat, and petrolatum. I often administer it floated on warm water, which protects the rubber to a great extent, the oil floating, proceeding ahead of the water. This method gives good results, but is not quite so effective as when introduced without water. I should be glad to hear from others on this subject.

THOS. A. RAPE.

Ballinger, Tex.

SIMPLE MECHANICAL MEASURE TO STOP NASAL HEMORRHAGE

I have read with interest Dr. D. H. Stewart's method of treating nasal hemorrhage, as printed in the September CLINIC (page 860), and having had to treat several cases of severe nasal hemorrhage, most of which were associated with Bright's disease, I want to describe the treatment successfully employed by me.

I pass an ordinary flexible rubber catheter through the nares down to the pharynx, where I grasp it with a forceps and draw it out through the mouth. Then to the end of the catheter I attach a cord of sufficient length to reach through the nares and return through the mouth. Next, I tie a pledget of sheet lint to the middle of this cord, then tie one end of the cord to the end of the catheter and withdraw the latter with the cord. In this way, the pledget of lint in the pharynx is drawn firmly against the posterior nares. Finally, by means of the cord, another pledget of lint is fixed firmly against the anterior nares. In this way, a clot of blood will form, thus thoroughly plugging the nostrils. I leave these plugs of lint in place for two or three days. These are cases such as every physician is liable to meet with at any time, and the simple means of combating them, as here presented, are at every doctor's disposition.

GEO. D. STANTON.

Stonington, Conn.

SEVEN YEARS IN HELL

Owing to the fact that a physician's work is intimately connected with social confidences and friendly relations, the persistent hounding by a cutthroat competitor may well be described as hell.

The aggressive tactics of a modern physician, when unhampered by the restraining chains of honor, ethics, and common human feeling, are devilish in the extreme. Such men promenade in the public eye with an exterior of innocent-lamb's wool, while, ever ready for instant action, the flesh-tearing claws of the hyena are just beneath. As a rule, they are men of ability, suave in appearance, and have a low, confidence-inspiring tone of voice that is effective in the methods which they pursue.

Ever animated by selfish and overbearing zeal, these men worm their way into vantage points of action, where, treading upon the necks of natural brothers, they climb higher and higher toward personal aggrandizement and financial success. Consultations furnish one of the most fruitful fields of their satanic activities. How easy it is to venomize the confiding heart of a friendly patient, and turn his kindly feelings into vitriolic hate and evil aggression.

How easy it is to make use of a chance opportunity to undermine honest worth and make it appear as a jumble of inefficiency and deceit. How easy it is to assume a plausible

stand of superiority, unmasked honesty, and condescending graciousness. How easy it is to pose as a deliverer and win the heartfelt gratitude of unsuspecting minds, filling them to surfeit with apparent cause for just resentment against a predecessor. How easy, under the guise of ethics, to announce a high order of honor by asking that relations with a former physician be clearly terminated before his own superior services are rendered. How easy to maintain a position of respect in the local church, prayer meeting, and medical society, as a cloak of concealment for lines of action that rival the atrocities of arch-demons in hell.

Yet, this is but a faint picture of professional activity as it may be found in many quiet communities of kindly intentioned people.

And the worst of all its effects is the blighting of ideality; the stifling of worthy endeavor; the denervation of aspiration; the destruction of incentive for nobility of character; the loss of abiding faith in common humanity.

The soul thus treated is silenced by the searing of the caustic coals of fiery hate; withered by the hot breath of foul lies; distorted from beauty to ugliness by undeserved disappointment.

Under these conditions, life loses its vision of a worthy goal and the promise of eternal peace is obscured by the sulphuric emanations of an earthly hell. And this is professional competition!

A. D. Hard.

Marshall, Minn.

USING COMMON SENSE IN TREATING BURNS

About thirty-five years ago, I knew of an instance where a woman had her clothing burned from her body and the learned (?) doctors opened the blisters and, then, after about a week of torture unequaled by anything in this world, those same learned doctors (?) burned her with hot irons, in order to cause new skin to form, as they said.

Is it any wonder that the poor creature very promptly died?

Now, what is the rational treatment of burns? In the first place, immerse the burned area, whether small or large, in cold water until, on exposure to air, the severe pains no longer occur. Why is this? The immersion in cold water fullfils two urgent needs, namely, it alleviates the pain and it supplies water to the burned tissues—water constituting five-sixths of their makeup. Then, what is the second thing to think about? Do not be in a hurry to open the blisters! Why not? Because nature forms the blister as a soft covering and protection for the exposed and sensitive nerve-endings. When the blisters become tight and uncomfortable to the patient, they may be punctured in several places with a sterile needle, and the serum allowed to ooze out slowly. Then what is to be considered? We must think of how to heal the burned tissues; and this is to apply a saturated solution of picric acid upon lint or fluffy gauze, keeping the pad wet all the time. Then, when the wound needs cleaning, do it with hydrogen-peroxide solution, and renew the picric acid. Try it, and be convinced.

T. F. P.

——, Washington.

COMBATING TYPHUS FEVER

Typhus fever (this disease not infrequently referred to simply as typhus, and also variously known as exanthemic or petechial typhus, camp-, ship-, hospital-fever, and spotted-typhus-fever; although in the United States "spotted fever" is applied more commonly to cerebrospinal meningitis, and, more recently, to socalled Rocky Mountain fever) is but rarely encountered in this country and not very often in non-Slavic Europe, with the inclusion of Austria-Hungary; although up to the middle of the last century those countries were subject to typhus epidemics. However, owing to its exceeding infectiousness, for centuries Europe had been ravaged by epidemics, more especially during times of war, the scourge spreading terror among the nations, and proving disproportionately fatal to the attendants, both those nursing and those treating the victims.

Official statistics for European Russia enumerated the number of persons having contracted typhus fever, in recent years, respectively as follows: 1910, 132,425; 1911, 113,473; 1913, 93,195. In Galicia, the Polish province of Austria, the disease has continued endemic. In the decennium of 1904–1913, the number of cases officially reported for Germany were, respective per year, as follows: 2, 16, 3, 17, 9, 7, 4, 12, 5, 7. The percentage of deaths within recent years has been calculated at about 1 in 7, or, not quite 15 percent.

While the western hemisphere has, happily, been free thus far, we should be prepared for the worst, in view of the fearful prevalence

and virulency of this deadly plague in war-swept Serbia, Russia, and Austrian provinces, together with moderately active intercommunication between those countries and our own; and it is for this reason that we do not hesitate to present, in the following, a free translation and partial condensation of the salient portions of an official announcement uttered at the close of last year by the Department of Health of the German Government.

The introductory statement, that the pathogenic microbe has not as yet been discovered, no longer holds true, inasmuch as since then, as our readers know, the culpable germ (bacillus typhi exanthematici) has positively been identified by our countryman, young Doctor Plotz. This fact, of course, will contribute greatly toward a rational and effective control of this infection, the more so, since an effective prophylactic vaccine also seems to have been evolved.

Forewarned is to be forearmed, although, with our modern sanitary organization and intelligent cooperation of an enlightened people and press, great epidemics, as of yore, no longer need be feared. We are now assiduously swatting the fly and the mosquito, albeit altogether too little enthusiasm is being vented with reference to the bedbug, the louse, the flea, the roach. As to this amiable quartette, our newspaper-scientists should urgently be dissuaded from proclaiming the fly as the one great—the greatest—menace that must be exterminated; thus lulling people back into a continued sufferance of these latter, less intrudingly conspicuous enemy-pests (and so confirming folk in their lazy-dirty habits); when, in fact, those darkness-loving creatures are accused of being responsible for the spread of bubonic plague, syphilis, tuberculosis, cancer, and various other grave maladies not just now called to mind.

The suggestions, as reprinted in the *Muenchener Medizinische Wochenschrift* (1914, p. 2431), follow:

Diagnostication: The period of incubation for typhus fever is about one or two weeks. Occasional'y, a few days before the actual outbreak prodromal symptoms are observed, notably weakness, headache, vertigo, lack of appetite, increased thirst, feeling hot and then chilliness, and muscular pains.

The onset itself occurs rather suddenly, with a marked chill, the temperature thereupon rapidly rising to 40° C. (104° F.) or higher; occasionally there is vomiting. Within a few days, a strong feeling of sickness develops, together with depression, extreme weakness, and increased pain in the head, sacrum and limbs; the fever rising, with an almost constant temperature at around 40° C. (104° F.) or more, abating but slightly during early morning.

Simultaneously, nervous disturbances are evidenced, these consisting in an excruciating headache, flickering before the eyes, noises in the ears, and, in severe attacks, perturbed consciousness that rapidly passes into complete loss of consciousness and then delirium. The face glows, the skin feels hot, the tongue is dry and thickly coated. Frequently, also, catarrhal conditions develop; signs of an extensive bronchitis make their appearance, while catarrh of the nose and conjunctiva may complicate the picture. Almost always there is swelling of the spleen.

Between the third and fifth day, numerous slightly elevated diffuse pale roseola-like spots, some of the size of lentils, break out over the trunk, limbs, and sometimes the face; these at first showing a purely hyperemic character and occasionally greatly resembling the eruption of measles. In severe attacks, these lesions will assume a bluish discoloration or, in consequence of hemic extravasation, they may become petechial.

In the milder forms, as a rule, the fever diminishes and the general condition improves during the course of the second week; while, on the other hand, if of severe type, all the symptoms increase in severity. Under these circumstances, in the presence of a very high fever, the status typhosus becomes fully developed. The mind becomes more obscured; the patient, with face deep-red, lies indifferent, mouth and eyes half-open, tongue parched, and utterly prostrate and exhausted. Sometimes, however, he may exhibit considerable nervous unrest and even a tendency to leave the bed. The voice assumes a hoarse tone. Owing to the weakened heart, hypostatic indurations form in the dependent portions of the lung. These conditions may terminate in death.

However, if the course of the disease proceeds favorably, the fever recedes at the end of the second week or during the third, frequently under profuse sweating, in the form of crisis; the exanthem bleaches out rapidly, the whole condition improves, and the patient enters upon recovery.

But, sometimes the attack may be very light, so that such a severe clinical picture is not presented; the temperature not rising high and grave general conditions being absent. Such patients, though, particularly if ambulant, constitute a decided danger for all

with whom they come in contact. These cases, when occurring sporadically, may present difficulties in promptly establishing their recognition; although suspicion can be verified, in case a typhus-epidemic obtains somewhere, by investigating the modes of intercourse and communications of the patient.

It is highly important to differentiate between the true exanthemic (spotted) typhus fever and abdominal typhus fever, better termed typhoid fever.

In spotted typhus fever, the real onset is sudden and attains its acme extremely rapidly; in typhoid fever, on the other hand, the clinical picture develops gradually (steplike increase of temperature, slow rise of pulse-curve, and so on). So, also, the fever, in typhus, ordinarily recedes far more rapidly than in typhoid fever. Furthermore, as already mentioned, the fever-curve of typhus is virtually a continuous one, with perhaps slight declines in the morning-hours; while, in the case of typhoid fever, the temperature generally drops one degree centigrade, or more, every morning.

Virtually without exception, pronounced intestinal symptoms are almost completely absent in typhus. Another sign facilitating a differential diagnosis is presented by the exanthem, which appears substantially sooner in typhus than in typhoid fever (not before the second week in the latter), while also being more generally distributed over the body, and, moreover, in typhoid fever but exceptionally assuming a petechial character. Finally, bacteriologic and serologic tests should dispel any further doubts.

A mistaken diagnosis of relapsing-fever should be prevented by the essential difference in the respective courses of the fever in the two, as also the absence of the spirochete of Obermeier. With reference to measles, it is to be remembered that the existence of the latter is rendered probable by the presence of Koplik's spots on the mucosa of the mouth, as also the greater involvement of the face by the eruption. At times, the question of excluding hemorrhagic variola, syphilitic roseola, meningitis, influenza, and septic or medicamentous exanthem may have to be solved.

The important question of the mode of transmission of typhus fever has found a solution only quite recently, and is not as yet completely closed. It now is definitely known that at least one predominating agency are blood-sucking vermin, notably the three varieties of lice infesting humans; and, that the pathogenic parasite is thus transferred from person to person. This discovery incidentally throws light upon the oldtime experience, that the sleeping-places for migratory folk, lodgings, and asylums, constitute the principal breeding-spots of this plague. Furthermore, the prevalent conviction, that the victims preeminently are homeless vagrants, beggars, gipsies, vagabonds, and peddlers, now finds ready corroboration; and, more, that it is during wartimes and the cold winter months when its spread is most general.

As soon as a physician has established a case of typhus fever, or even when entertaining only such a suspicion, it is his duty [This and other phases are regulated by strict imperial laws of Germany] to report it forthwith, and such patient must be rigorously isolated; and, in view of the danger of the disease being communicated to the persons about him, he should be conveyed as quickly as possible to the pest house.

The transportation of typhus-patients, including suspects, must not be by means of public vehicles of any kind or street-cars, but, whenever available, an ambulance should be requisitioned; otherwise, some other conveyance is to be improvised under the doctor's supervision. These conveyances must be thoroughly disinfected immediately afterward; likewise every person who has been associated with or helped to transport the patient. Furthermore, every recent change of residence must forthwith be reported to the authorities.

Everybody engaged in caring for the patient should avoid associating with other people as far as practicable. Inside the sick-room, these persons should wear washable gowns, which are to be left in a special closet upon leaving the room. They must guard against harboring vermin. It is best that during a typhus-epidemic the nurses be immune, from having had the malady themselves.

The most effective measure for preventing communication of the disease is to rid the patient of all vermin, if he is thus afflicted. To this end, the patient is given a thorough scrubbing (conformable to his state of vigor) with warm water and soap; the hair (best clipped short) and scalp are treated with a reliable insecticide (kerosene, sabadilla-vinegar, eucalyptus-oil, balsam of Peru, and the like); then clean under- and overgarments are provided. Then the patient is taken to a constantly ventilated room (this latter measure, according to empirical experience, notably minimizing the danger of infection).

The body-garments, bed-linen, towels, and all washable garments that have been used

by the patient are immediately to be placed in water, to which soda [or borax] may be added, and kept boiling for not less than fifteen minutes, the articles the while being completely covered by the water. The boiler should be covered.

Everything else that has been used by the patient, but may not be washed (garments, blankets, pillows, mattresses, and the like), are to be treated, in an autoclave, with superheated steam, which not only disinfects them, but destroys any vermin present. As customary, unmanageable articles of little value are burnt. However, all articles transported to the steam-disinfecting plant must, on the way, be covered with cloths wrung out of a weak solution of cresol, phenol or mercuric chloride. Furs and pelts are best treated with dilute cresol-solution, for exterminating any vermin.

The habitation or the rooms occupied and frequented by the patient at the time of his attack also must be completely disinfected and cleared of all infesting vermin. For this twofold purpose, formaldehyde is not sufficient, inasmuch as these vapors do not penetrate enough to kill hidden vermin. Consequently, liberal use is to be made of dilute solutions of cresol or phenol, this thorough washing and scouring best to be supplemented by and immediately following fumigation with sulphurous vapor [Burning of sulphur, *in the presence of water-vapor.*—THE TRANSLATOR.], which must be thorough.

In the present state of our knowledge—or, un-knowledge—the possibility of infection also by means of contact with the person of the patient not being positively excluded, all other known precautions adopted in the case of other infectious diseases must, of course, be taken by everybody associated with typhus-fever patients.

It may be added that Julius Springer, Berlin, publishes, in pamphlet form, the various official orders issued by the German imperial council in relation to infectious diseases.

FIFTEEN DOCTORS WANTED

The American Board of Commissioners for Foreign Missions needs at once fifteen surgeons and physicians for work in mission fields. Nine are wanted for China, four for Turkey, one for Africa and, most urgent of all, one at once for relief work in Serbia, with station at Monastir. This latter call is in the nature of a "special" and may appeal to some doctor who wants to give two years or so to humanitarian service. The need is tremendous; the Board has the money and the location. The man must be thoroughly first-class as to equipment and devotion.

For China, six men and three women are wanted to join hospitals already running which treat from 10,000 to 30,000 cases a year. The new men and women will be associated with surgeons in charge.

In four hospitals in Turkey, physicians are wanted in association with doctors already on the ground. The American hospitals have increased their influence enormously during these months of war and the men on the ground must be re-enforced. In Durban, Africa, a physician-surgeon is urgently needed.

The Board lays down no sectarian test, but does insist on earnest Christian consecration on the part of physicians whom it sends out. The candidates should be not over thirty-five years of age. In equipment the Board requires a degree from a distinctly first-class institution and in addition an interneship or its equivalent. Specialization is not demanded, though special preparation is welcomed. Details as to service may be secured from Dr. C. H. Patton, 14 Beacon Street. Boston.

THE BATTLE WITH THE BODY-LOUSE, AND TYPHUS

Now that lice, preeminently body-lice, have definitely been demonstrated to be the chief agent of disseminating the deadly typhus fever—the plague against which medical art still stands hopeless and helpless—relentless war against those literally pestiferous parasites flourishing during war has become an object of gravest concern to the guardians of the lives of nations; consequently measures dealing with this problem these days are of highest importance. So, while during the past year or so the question of the extermination of lice—all three species—has received considerable attention (although not with an eye to this particular malady), the following note abstracted from the *Muenchener Medizinische Wochenschrift* (Jan. 15, p. 67) no doubt will interest many of our readers. The article was contributed by S. von Provazek, of the Institute for Tropical Diseases, at Hamburg.

The epidemic spread of a virulent type of typhus fever, conditioned by the wars of recent years in the Slavic districts of Europe, naturally has stimulated scientific investigation; one important result of this being, that it is not merely the adult body-louse (pedicu-

lus vestimenti) which conveys the pathogenic germ, but that the germs are transmitted to the succeeding brood of the parasite, and, so, they in their turn are capable of infecting human beings. (Sergent, Foley, Vialatti.) Because quinine, methylene-blue, salvarsan, arsalyl, in fact, all therapeutic attacks of every kind have failed, the imperative need, in view of present knowledge, of eradication of the culpable parasites is clear, and that, above all, must include destruction of the nits; consequently, also, we must know something about the life-story of the parasite.

In order to propagate, the female must, ordinarily, suck itself full with blood (human) twice in twenty-four hours, and the rapidity of digestion is determined by the environmental temperature. For the conveyance of typhus fever, it is obligatory that the experimental louse remain alive for some time after its first (infective) suck. There obtains a strong probability that a species of superinfection can take place, inasmuch as observation seems to indicate that the course of the disease is relatively much more severe in patients who are being constantly inoculated anew, as compared with those who are immediately cleaned and nursed in a louse-free environment.

In laboratory-experiments (Nicolle), it has been found that the body-louse will attach itself to monkeys, less readily to cavies, while quite unwillingly taking the blood of rats and mice; in fact, kept in glass vessels together with the latter, they generally die inside of from twenty-four to forty-eight hours, for they do not live without food longer than that, although on rare occasions persisting three or even four days. They must be kept between warm pieces of broadcloth and fed once or twice a day. However, a continuous temperature of over 30° C. is harmful, and they perish when it attains to 35 degrees. This explains why the body-louse is found in the highlands of Mexico, for example, but is not prevalent in the hot coastal regions. The reason why body-lice (as already pointed out in these columns) show a predelection for the regions of the neck, back, and waist is, because the close-fitting garments at these points provide greater warmth. Otherwise, they like to hide in between the threads of coarse weaves where the threads cross. Older writers (e. g. Landois) mention that these lice will bore into the skin and can be found on the edges of crusted louse-sores.

A female body-louse lays, in succession, from 70 to 80 eggs (the head-louse, 50); while her progeny, in the brief period of eight weeks, mounts to the startling number of 5000. These nits are deposited in the sutures and seams of the garments and bedding, and are hatched after three or four days, according to the temperature. They become sexually mature in from fifteen to eighteen days; the same being essentially true for head-lice.

From the mass of pediculicides recommended in current literature, Doctor Provazek has culled those which, in his opinion and experience, seem to be the more suitable and useful, and which are here repeated. Although in part they have been mentioned in these pages on former occasions, repetition not too obtrusive cannot harm.

Briefly stated, the lice-destroyers named by the author are: (1) 5-percent solution of xylol in oil. (2) Decoction of tobacco—weight of one cigar in a quart. (3) Vapor of iodoform. (4) Asafetida—repeated here only as a curiosity. (5) Benzin. (6) Carbon disulphide; applied by means of a wad of cotton. Xylol, benzin, and carbon disulphide, the author explains, cause a burning sensation in the pubic region; however, these volatile substances kill the eggs in textiles when put in tight containers. The latter object also is attained by means of sulphur-fumes, steam or an autoclave. The volatile liquids must be placed at the bottom. (7) Insect-powder. (8) Various volatile aromatic oils: anise, fennel, eucalyptus, clove. These oils to be diluted with alcohol; also a little to be placed in the body-linen. These oils also are useful for fleas.

The prophylaxis of typhus fever consisting, preeminently, in the elimination of the body-louse, especially, but also of the two other varieties, measures to that end become of greatest importance. A number of such (although with no eye on this problem) have been presented in these columns during the past two years, to which the following, proposed by A. Blaschko, the well-known Berlin physician (*Deut. Med. Woch.*, 1914, No. 52), may here be added:

For eradicating body-lice, and preventing bites, the entire body should be anointed with petrolatum containing 5 percent of naphthalin. Also, in the case of soldiers, every man should carry one or two ounces of naphthalin in fine powder, half a teaspoonful of this to be dusted in around his shirt-collar when he feels any itching; while, in addition, it is suggested that he might wear a naphthalin-pouch suspended from the neck, and, still more, some of the powder might be sprinkled be-

tween the bed-sheets. Not a pleasant prescription; but drastic measures are justified, particularly under circumstances such as prevail in the present war.

As for head-lice, Blaschko recommends that the hair of the soldiers be shorn short with the clipping machine. This, though, hardly could be carried out during a winter-campaign, although, indeed, proposed in the month of December, and notably for the armies operating against Russia.

A course of experiments, undertaken at the instance of the director of the Institute, Professor Nocht, established a number of facts of some interest. In the first place, the sex-mature pediculi are less resistant than the younger, more active ones. With regard to practicable parasiticides, with reference to armies in the field, the author postulates the following conditions they must meet: (1) applicability under the most primitive circumstances; (2) must not soil garments, bedding, skin; (3) must not be too volatile nor inflammable; (4) easily procurable.

These demands, all of them, the author finds in the four aromatic oils above enumerated, with oil of anise at the head. From 30 to 40 parts of genuine pure oil of anise (or fennel) is dissolved in 60 to 70 parts (by weight) of 96-percent alcohol, and this rubbed into the skin and also the infested portions of the garments. Some of the experiments consisted in placing body-lice (collected in cotton wads) in jars filled with the etheroleum vapors of differing degrees of concentration and temperature, and noting the effects and time required to kill.

SEPSIS FOLLOWING A SOFT CORN

A man, about 50 years old, cut away a soft corn between the two small toes of one of his feet, causing profuse bleeding. Later, the wound began to be very sore and became very offensive, and when I was called, the odor was so bad that I could hardly stand it. I started treatment by applying chinosol-solution (1 chinosol tablet to 2 quarts of water), then bound up the foot. I called in another physician, to administer the anesthetic while I dressed the wound. A nurse continually poured on the chinosol-solution, which was kept hot. I wrapped the foot in gauze, placed cotton on top, and then more gauze, leaving an opening so that the nurse could continue pouring the hot antiseptic solution into it. We kept on dressing the foot in this way for three months. I saturated the patient with calcium sulphide, also gave echinacea, together with iron, quinine and strychnine. At the end of three months the man was up and now is attending to his business, walking normally.

When first seen, the foot was black away up the side; the family insisted upon my amputating it, because so many of their friends and another physician had advised doing so. I told them that, if they wanted this done, they must get another physician.

The result of my refusal is seen in the above narrative.

J. B. Ross,

Chicago, Ill.

CURRENT COMMENT BY A COUNTRY DOCTOR

Just German Measles.—Doesn't amount to much. Not much; but look at the anxieties it has caused and the possibilities it presents. These are slight for the disease itself, except in occasional cases where weakened resistance gives especially good ground for attack. The main element of seriousness is the multiple opportunities for diagnostic error presented in rubella. Textbook descriptions of the type-cases of the exanthema are clear and precise, but the deviations from type are so frequent that identification is often difficult, even after the appearance of the eruption.

We may say that one disease of the group having early throat manifestations is easily eliminated by demonstration of the Klebs-Loeffler bacillus, but even this diagnostic aid may fail us or not be readily available. Susceptible tonsils or intercurrent tonsillitis may be present, and further chance for diagnostic error or omission thus be presented previous to a general appearance of skin-symptoms, even if these are typical.

Thus the early decision as to disease-identity in scarlatina, measles, and German measles on throat- and cervical-gland-symptoms is liable to be impossible. The character of eruption and rotation of parts upon which it shows is so varying that one might almost as well make a typhoid-fever diagnosis upon those spots, supposed to be there, in that disease.

Diagnosis with the type-case and history of exposure is comparatively easy, but these are not the cases under discussion. It is the atypical cases that present possibilities for error. It may be that even here, in the presence of endemic or epidemic prevalence, errors are made and cases of sporadic roetheln included with those of scarlatina. We here

candidly and modestly admit that by no chance have we ever committed this error, but it may have occurred to some practitioner not enjoying the gift of infallibility. If so, ten to one, he got by with the proposition and possibly does not yet know of it.

If we say scarlet-fever, off-hand, we are likely to excite the family unduly, and our diagnostic reputation will receive a black eye that will be a long time disappearing. Another factor is that of quarantine or isolation.

At the appearance of suspected measles or of scarlatina, rubella is at least to be thought of. Even in scarlatina the case is seldom one presenting an eruption that promptly excludes everything else. The time of "breaking-out" is not to be relied upon, as it is often impossible to tell at what point in disease-duration external manifestation first occurred. Prodromes may have been slight or ill-observed.

Fortunately the treatment of the contagious exanthemas is practically the same in all—symptomatic—and we practice isolation so far as possible, even in follicular tonsillitis. As for the exanthemas, even in suspected cases, isolation is supplemented by such degree of quarantine and other precaution against spread as may be possible. However, no one wishes to decorate a house needlessly with a scarlet-fever sign on mere suspicion. The anxious desire is for quick diagnosis; but there may have to be a little of that watchful waiting; this, combined with generalization of existing symptoms, the exclusion of those absent and a history of exposure must be relied upon.

In measles, look for that coryza and cough.

In scarlatina, look for that nausea and initial chill, together with the rapid, wiry pulse, and a throat making one think of tonsillitis or diphtheria; but do not forget that a similar symptom-grouping may show in rubella. The pulse may have been influenced by medicines, hence, is not entitled to too great diagnostic value.

Who can draw a finger over a scarlatina eruption and make a diagnosis on that "white line" and the centering of spots around the hair-follicles of an infant? Or, are they willing to wait for possible demonstration of albumin in the urine?

Now, please, add to diagnostic difficulty a patient with skin the color of the ace of spades in a slightly used deck, or of new saddle, but with full power to spread disease to "de w'ite folks's" and you will have more trouble.

Do not make a mistake! Do not consider your erudite learning, your high standing of many years' duration. You are on trial, always, and guilty until proven innocent. Even now old Bill Z's wife and Aunt Zaphira both know you are wrong. They await a semblance of proof. Even now they are in session in Bill's back yard and ready to start the news of the awful double mistake—on the family's part, for getting the wrong doctor, and on yours, one which was natural in a person of your incompetency; an incompetency that should have been demonstrated to the neighborhood long ago. As to spreading the news, why, the marvelous discovery of Marconi is an obsolete and time-worn institution as compared with the way the S. O. S. will be spread.

The treatment! Oh! Atropine and aconite are oftenest indicated, and saturation with calcium sulphide is emphatically worth while.

Another Word on "Twilight Sleep."—The acceptance of painless, or partly painless, midwifery as a routine and practical procedure is becoming more general. The consensus of public opinion is demanding that women be saved danger and agony at their time of greatest trial. As for me, it is an established custom, no contraindications being present—with the H-M-C combination they are practically eliminated—to use hyoscine and morphine when attending labor-cases. In fact, it is my custom also to use this combination in practically all but very minor surgical procedures.

The error to be guarded against in confinement is, the use of too much of either drug. Just get a partial amnesia, to start with, and use the morphine in its indicated form, the hydrobromide—the brain-sedative effect of the Br radicle being here called for. The case requires watching, but the technic, with modifications to suit circumstances, is as available in Coonskin Hollow, Rubendale Township, as in Freiburg, Germany.

Without a large series of cases to report, there are no "blue babies" and no untoward maternal facts to be enumerated. The system of treatment is simply a part of the routine of a busy country doctor's practice. One of its beauties is, that, with proper conservatism, no vital function is held in such subordination as to prevent use of other measures. The patient can be roused to help herself or pituitrin can be used if indicated, if the properly regulated *small dose* is used, repeated if necessary.

Doctor Wakefield's article in *The American Journal of Obstetrics*, quoted in August CLINICAL MEDICINE, is most admirable. The only modification occurring would be the substitu-

tion of the Br for the Cl radicle in the morphine molecule combination. This may be chemist's crankism, but it looks rational. The call seems to be for rationalism.

Medical Economics.—With appreciation, the receipt of recent numbers of *The Medical Economist*, organ of the Federation of Medical Economic Leagues, of New York, is acknowledged. There is nothing in this publication about "twilight sleep," resection of the abducent nerve for strabisimus, nor, yet, about treatment of "yaller chills" in the swamps. It is devoted entirely to the economic aspect of medical practice. This subject is receiving energetic, if delayed, action at the hands of most of the general medical press, but there is full room for a publication handling the subject exclusively. We take the position, held by many philosophical thinkers, that economic determinism is the nearest approach to a personal devil. The doctor, in common with all others of his race, will be better to himself and to others if given proper economic surroundings. Correction of economic conditions should be taken up by medical societies everywhere; in the larger places, organizations for this work exclusively are needed.

There was, doubtless, a day in the past when doctors as a class—not the isolated and fortunately situated individual only—got their full share of what was then produced. This was in the days of the priest-craft medicine-combination. If the public was careless about the "free will" offerings to Hygiea and Panacea, the therapeutic wheels paused and the superstition department was run overtime until proper realization of neglect upon the part of the laity of that remote epoch was brought about. The priest-physicians rode the populace with double cinches, hobbled stirrups, and a spur of superstition while dispensing their mixed medicine and mythology. Since then superstition has not entirely died out, but the modern physician, although becoming more worthy of the title doctor-teacher, must look out for the collecting-end, or his usefulness to the people as well as enjoyment of his own life will be most seriously handicapped.

We live in an age demanding attainment, yet, one which refuses to permit it without that portable means of representing the unportable, known as the peso, pound sterling, and almighty dollar in different political divisions. It is time we got together and, at least partly, eradicated economic error from our lives. Let us raise the opsonic index of the financial current so that there will be more of those white metal discs in evidence. Let the count be nearer normal. It will be better for the public and for ourselves. When the demand is for socialization of this essential branch of public service, we shall be found ready; but in the meantime it is up to us to place ourselves upon the proper level in the social edifice as now constituted.

Selecting himself as an example, the signer of these transient thoughts upon economics believes that the average doctor accepts more of what users of colloquialism term hot air, in lieu of matter in nongaseous state, than does anyone else. This does not apply to the exceptional man, but to those who, the writer believes, constitute the majority of the profession.

Our clientele are entitled to the very best that is in us. For them to get this, we must have time for study, new books, new instruments, and opportunity for rest and recreation, to recuperate to a high standard of physical excellence that alone can permit a well-stored brain to work with ready resource and high efficiency at all times.

Incidentally, that lady who has the fire burning and the coffee hot when the doctor comes in out of the blackness of the stormy night, the one who ministers to him in moments of relaxation, trouble, and intense anxiety, even while seeing the scarce collections go out for gasolin or the very best of medicine for Mrs. Someoneelse, is entitled to something in this life. And the children, also.

If there is something of truth in these lines, doctor, read a paper at the next meeting of your society. "Cash or Charity" will be a good title, or, "THE LABORER IS WORTHY OF HIS HIRE."

A. L. Nourse.

Sawyerville, Ala.

ON THE FIRING-LINE

The frequent charges and countercharges to which we have become so accustomed have strangely decreased. The policy of our troops is, not to charge over the trenches unless there is some distinct object and prospect of extending our lines. We have always repelled the charges of the enemy and often driven them back out of the trenches, but unless the place was particularly favorable we have not occupied these trenches, except so far as they were useful for further work.

A change evidently has come over the battle-front. Artillery firing is more frequent, and sometimes for days there will be

a continuous roar from early sunrise until dark. The shells falling in different directions have done very little damage and the number of wounded and dead had dropped to a minimum. At one of the central hospitals, not more than 50 passed through in a week. Sometimes several days will go without anyone being brought in; and this gives the hospital-men an opportunity to perfect arrangements of first care and transportation.

Many of the boys in the trenches who have been in service some time are unfit for further duty and, so, go to the rear, where they can become rested, or else they undertake some hospital-work. Many of them get furloughs back home for thirty to sixty days. The new men who take their places are very enthusiastic and anxious to see service.

Officers and men are in a kind of quandary-state to know just what is coming. No matter how much the enemy may mass his troops at any one point, there is doubt as to whether he ever will break through. Enormous stores of guns and ammunitions are being gathered along the line at different points, and autotrucks are prepared to transport them rapidly to any particular place, together with men. If it were not for the guns, one hardly would suppose that large bodies of men were concealed in trenches and behind embankments, ready to start up at any moment.

The airmen are the real scouts and protectors of our lines. They are constantly hovering overhead, observing the changes, pointing out the location of the big guns, and signaling to the gunners where to send their shells. That they are effective, is evident from the sudden changes in the firing of the enemy. Shells that have come from particular points suddenly will cease and the firing will come from another section. Probably the same thing occurs on the side of the allies.

A very heavy gun will take a certain position after being concealed by brush. The gunners will proceed to entrench themselves where fragments of shells can not hit them, then, at a signal from the airmen, they send shells directly to a given point. After a dozen or more shots have been fired, the gunners on the other side will locate this gun and shots will fall in its neighborhood. Then the firing will subside for an hour or so, and then another gun a quarter of a mile away will start in. This in turn will become a target after a while, after which the first gun will take up the charge again. The exploding shells scatter great fragments, but only occasionally someone is hurt.

Roads to the rear of the line are constantly being repaired and made ready for service; also wires are strung up all-about. Hospital-supplies are perfected and gathered where they are most likely to be of service. The general impression is, that, before the campaign ends, there will be some fearful drives along part of the line, in an effort of the Germans to break through toward Calais. At any rate, so far as a doctor can guess, it is evident that there will be some fearful fighting along these lines if anything of this kind should be attempted.

In the meantime, the surgeons and assistants are enjoying a degree of quietude that, were it not for the cannon-roar, would be almost monotonous. Knives and all medical appliances are furnished and put in the most available places. Records are written up and dates are verified. Commanding officers are inspecting the ground constantly, so as to know what to do in case of any sudden emergency.

The warm weather brings an anxiety for the water-supplies, and attention is turned to prevent it from being polluted. A gang of driven-well men are putting wells wherever the necessity occurs, and pure water brought up from a depth of from 50 to 75 feet is ample for all emergencies. (I may here interpolate that the farmers back from the rear are going on with their work just as usual; potatoes and garden-vegetables are being raised with little or no interruption, and the sale of them is very rapid right at home.)

The topographical engineers are fixing points for future reference and markings. Burial parties are covering up trenches that have served as burying grounds in the past but were not completely covered at the time. Out on the front, very sharp scrutiny is kept, to prevent a gas-charge, while general desultory rifle-fighting is going on around.

A view from an aeroplane 2000 feet up reveals very little of the actual condition of affairs. Back in the rear of the Germans, trains and autos are moving slowly. The trenches are largely concealed and the guns can nowhere be seen. Occasionally little groups of men appear here and there on some little hill or elevation, but the whole country looks placid. Far away in the rear, the smoke from moving railroad engines can be seen, and now and then a captive balloon starts up several hundred feet in the air and you see in the basket underneath a group of officers peering out in all directions. The aviator at my side is signaling at someone away below, with little flashlights, the result of

his observation. If he discovers the location of a battery or a trench that seems to be crowded with men, he conveys this information by flashlight signals, giving the location and the direction where shells will be the most effectual.

With all this constant cannonading, there is little or no smoke. The powder used is smokeless, and only a short distance from the gun you see a little smoke following the discharge of a shell. If it should strike in sandy soil, a cloud of dust, that goes away gradually, will be raised.

The general health of the soldiers is very good. Very little of the camp-diseases are met with, and back in the rear the sick-call is attended by but very few soldiers. Tents, barracks, and various coverings are scattered all along at intervals, so that the soldiers are almost certain to have comfortable resting places when not on duty in the trenches.

At one place along the line, two very large springs have been turned into bathhouses, and the water supply furnishes most grateful relief to all the soldiers in the neighborhood. A gasolin-pump forces the water up into a tank, from whence it is drawn in showers or into tubs, while the gasolin furnishes the heat for warming the water.

When the German aviators are in sight, all the men seek cover, and those who are passing from one place to another get behind fences and barns so as not to attract attention. If any body of men were seen moving here and there, long-range guns would soon send shells into that neighborhood, to their peril. Probably our guns do the same thing, particularly wherever a group of men can be seen or what is thought to be a wagon-train or moving body. In clear weather, all this passing of troops in the rear is stopped; but in cloudy weather and in the early evening, men come and go to the trenches and bodies of men are shifted from point to point.

As an example of the sharp scrutiny and accurate knowledge of the movement of troops on either side, the following incident may be stated. One afternoon, it was reported that large bodies of men were massed in a certain woods, back of the German trenches. This meant a charge very soon, as the artillery-fire was violent in that direction. Instantly troops were concentrated all along that line, machine-guns on autos were driven up and put in position, and the hospital-force was increased. Transport-autos were hurried into that neighborhood. All was expectation, but nothing happened. The artillery-fire died out and a watchful, expectant night passed without any sign of an attack. What really happened was, that the balloon and the aviators on the enemy's side saw the concentration of troops and preparations made to meet their charge, and, so, the charge was called off. Their general realized that such a charge would be a waste of men and might provoke a countercharge, in which they might lose their trenches.

The espionage is very sharp along these lines, and strangers in the hospitals or in the ranks are scrutinized very carefully; for spies are everywhere, despite all the best-made plans. Thus, a German will, in some way or another, be injured between the lines and taken prisoner. Unless he is taken back to the rear very quickly, he will communicate with his friends, in some way, the strength of the line and certain other information that will surprise one by its accuracy.

These are episodes occurring every little while. The accuracy of the gunners, and the perfection, is very evident to good observers, and the artillery duels going on all the time, in which shells are thrown from two to ten miles, and often doing very effective work, give some idea of this modern warfare. Occasionally a gun will be damaged by a shell or a fragment of a shell. This is replaced very quickly by a more modern one, with a bewildering set of gauges and levers, to insure accuracy in its firing.

As would be expected, a great many of the gunners suffer from punctured ear-drums. Many of them insist upon remaining at their post and going on with their work as usual. It is found that nearly all of the gunners, when relieved from duty, suffer from a peculiar kind of depression, and exhaustion, which continues for two or three days, unless they are sent far back from the front.

One is surprised to realize how far the roar of the cannons is heard. Eight miles to our rear, there is a large field hospital. At times, the inmates of this hospital start up with great excitement when the cannonading is excessive. When the sound is subdued, like a long, low distant murmur, it has the effect of soothing rather than exciting. Medical men and officers talk a great deal about the psychical effect, and nearly everyone has some story to tell that sounds very weird and strange.

When the war is over, there will arise a great literature upon the mental effects on the troops in the trenches and under other strange, unforseen conditions that give the life here a continuous tension.

No visitors are permitted along the line. Occasionally an officer brings in somebody, to look around a little, but he is taken back quickly.

A feeling of expectancy, amounting almost to a dread of the future, makes the work along the line very hard. If we could be ordered to advance at once, there would be an excitement and hopefulness that would rouse a new spirit in the troops, but lying here, subject to the possibility of a charge any moment, and the constant dread of shells that are liable to come in any time, at almost any place, keeps one in a disturbed condition.

"Briton."

"PEACH-POISONING" AND POTASSIUM IODIDE

I had a peculiar case the other day, one which might be repeated many times during the peach-season of the year, for the reason that we always have among us an abundance of syphilitics who are taking potassium iodide.

A traveling man came in the office and said, "Doctor, I have been poisoned on peaches."

"What makes you think so?" I asked.

"Well," said he, "look at my spit."

I did. It was blue-black and continued so for half an hour. Then he showed me some of the peaches, and they were healthy specimens. It never occurred to me for several hours that he was a syphilitic and was taking large doses of potassium iodide, and that this combined with the starch of the peach.

C. V. High, Jr.

Coleman, Mich.

[A peculiar case, but not poisoning. Also, we are a little doubtful as to the correctness of Doctor High's explanation of the "black spit." Thousands of people are taking potassium iodide every day, and if this were likely to be decomposed with release of sufficient free iodine in the saliva to react in the presence of fruit starch, then nearly every person using the drug would present this phenomenon after eating. Were there not other factors? Was the patient taking any other medicine at the same time? Iron, for instance, when associated with the iodides may break them up, with release of free iodine. The peaches may have been peeled with a rusty knife. Can any of our readers relate similar experiences, or give a satisfactory explanation of this discoloration? Ed.]

THE INJECTION-TREATMENT OF HEMORRHOIDS: ANOTHER COMMENT

In the April number of "our journal," you quote from *The Therapeutist*, part of my article on the injection-treatment of hemorrhoids, and in the May number there is a query from Doctor Collins, asking about the correctness of the formula.

I am pleased with your reply to him, and also with your statement as to the action of the carbolic acid in that strength. It is, indeed, much safer and much more pleasantly effective than any of the other combinations in which the phenol is more diluted. One thing, perhaps, I did not make plain. The needle should be passed nearly through the tumor, and from side to side—not from above downward; then, as it is being withdrawn, cause the carbolic acid to reach the mass everywhere, even if it is necessary to pass the needle point to one side or the other of the first line of injection. Nothing further is necessary, although as a rule I prescribe some bland ointment to be applied for a few days.

I also have been having a little pellagra experience that may be interesting to the brotherhood. August 15 a mother brought me a puny boy, 3 years old, whose face, arms, and legs were peeling as if badly sunburned, and whose mouth was sore. I was told that he had a troublesome diarrhea, and was constantly thirsty. It being my first case of the kind, I called in a confrere to corroborate my diagnosis of pellagra.

For local treatment, I gave an ointment of ichthyol, and prescribed, symptomatically (after Scudder), rhus toxicodendron, nux vomica, and nitrohydrochloric acid; also galactenzyme. Three days later, the child was improving, and I added ipecac. After four days more, I put the child on quinine hydrobromide, because I had seen this praised as almost a specific; however, after a week, it was seriously worse, being unable to take food, while the condition of the bowels also was worse. I now prescribed a mixture, consisting of 2 grains of resorcin and 2 drops of tincture of iodine, in each teaspoonful of water; one dose to be given every three hours. I also prescribed rhus, aconite, and liquor of potassium arsenate; bovinine for nourishment. After three days, the child was improving, so, the medicines were continued. It is now three weeks since my last

visit, and today a neighbor tells me that the eruptions are all gone and the child seems well.

I told the parents that the child would need attention, probably, for some months, as there was danger of recurrence.

C. A. Freeman.

Geary, Okla.

[The formula given by Doctor Freeman in the little article published in our April number was as follows:

Carbolic acid, crystals.....drs. 7
Glycerin.....dr. 1
Cocaine hydrochloride.....grs. 20

Doctor Collins raised the question whether it was safe to use such a concentrated solution of carbolic acid. We replied as follows: "There is no need to fear any dire disaster from this formula; only 2 or 3 drops are injected into the tumor. In fact, the stronger the carbolic acid, the safer the procedure becomes, for, practically pure carbolic acid immediately and unfailingly coagulates the albumin of the tissues, so that there is no absorption and the hemorrhoid itself quickly sloughs off." We might have added, as is so clearly pointed out in the foregoing by Doctor Freeman, that the concentrated solution really is safer than a more dilute one, since the latter is much more likely to be absorbed into the blood, whereupon it exercises its toxic action.

We are interested in pellagra. Indeed, this is a topic which is deservedly attracting a great deal of attention, especially in the southern states, where hundreds of physicians are struggling to find some remedy upon which they can depend. We believe that Doctor Freeman's first line of treatment proved unsatisfactory because it was irritant to the alimentary canal. Practically always in pellagra there are present stomatitis and gastroenteritis, so that any remedies employed should be sedative rather than irritant. Emetine and ipecac, when taken by the mouth, frequently cause nausea and vomiting and, if given in fairly large doses, may actually produce alimentary irritation and inflammation. When the emetine is given hypodermically, it seems to exert a very favorable effect, probably because it directly destroys or at least antagonizes some infectious element the nature of which we do not yet know.

Quinine hydrobromide certainly acts nicely in these cases. This is a remedy particularly praised by Dr. Isadore Dyer, of New Orleans. We have no doubt that the resorcin would prove of value, since it acts as an intestinal antiseptic, and remedies of this class most probably are indicated. Arsenic is very generally prescribed throughout the South in the treatment of pellagra, the most frequent manner of administering it being in the form of subcutaneous injection of sodium cacodylate, a form of arsenic which is readily tolerated and only slightly toxic.

As we have so frequently stated, we have great faith in the use of calcium sulphide in this disease. This writer has had the pleasure of meeting Doctor Mizell, of Atlanta, who has treated hundreds of patients with this remedy, in association with dietetic control; and the results are certainly most happy ones.

We have observed with interest that a number of Texas physicians are using, in their pellagra cases, local applications of a 1-percent solution of picric acid, with very good results. This fact is reported upon at considerable extent in a recent number of *The Texas State Journal of Medicine*. This is also referred to in the article by Doctor Fairbanks, which appears elsewhere in this issue of Clinical Medicine.—Ed.]

OUT-OF-BED TREATMENT OF PNEUMONIA

A startling announcement has been made by Ch. Widmer (*Muench. Med. Woch.*, 1914, p. 1161), to the effect that a "large number" of his pneumonia-patients have been permitted to leave the bed for four to six hours every day, right from the start. He claims for this regimen a beneficial physical influence, the delirium ceasing, normal desire for sleep making its appearance, fever receding slightly, frequency of respiration becoming less, and blood pressure increasing. But, would this be true in really severe attacks, especially when the circulatory system has already been palpably damaged? Surely, a great risk would seem to be involved in such a course and much courage required for undertaking it. Take no chances!

EMETINE IN PSORIASIS: ANOTHER CASE

Recently I have used emetine hydrochloride in treating a little boy, 5 years of age, who was covered from head to foot with psoriatic patches. On account of the child's age and size, I gave only 1-4 grain of the alkaloid at a dose, administered hypodermically; the injections being repeated once a

week. The child's skin is now perfectly clean and free from eruption.

Prior to using the emetine, I had given an ichthyol-ointment a faithful trial, but without any results whatever.

A. Geo. Baker.

Philadelphia, Pa.

[Last month Doctor Campbell, of New York, gave a very interesting report of some cases of psoriasis treated with emetine. In his experience, this alkaloid is effective in cases in which there is an associated pyorrhea. When pyorrhea is absent, it is of much less value.

Psoriasis is such an intractable disease that any addition to the list of remedies of known value is something to be thankful for. We certainly recommend a trial of emetine in every case which refuses to yield to other treatment, especially if pyorrhea alveolaris is present.—Ed.]

POTASSIUM-POISONING AS A CAUSE OF PELLAGRA AND SCURVY

About twenty years ago, there came under my observation a typical case of scurvy, in one of my patients; the disease having made its appearance four days after he had finished eating, all alone, in the space of ten days, a 12-pound ham. A few years later, it was my privilege to write an opinion, for the representative of an eastern state board of health, on certain packing-house products preserved with sodium chloride and potassium nitrate. In going over the papers submitted, I found that about 20 grains of potassium nitrate were present in each pound of ham, bacon, and other preserved meats. From this I arrived at the conclusion that the patient who had consumed that 12-pound ham within ten days had been poisoned by potassium nitrate, having taken in not less than 200, perhaps 300, grains of potassium nitrate and the same amount of sodium chloride. I therefore concluded that meats preserved with potassium nitrate and sodium chloride, when eaten in large quantities, would cause scurvy. The action of an excess of potassium nitrate in nitrogenous compounds will cause scurvy; and pellagra also is caused by an excess of potassium nitrate when taken in conjunction with carbohydrates.

Pellagra is a chemical disease, caused by the introduction of an excessive quantity of potassium, associated with sodium, magnesium, and calcium in starchy foods, and often in adulterations in meat preservatives. In every 4 ounces of corn-bread, there are about 2 grains of potassium, from the corn, besides that in the saleratus used in the making; and in every 1-10 of a pound of bacon or ham, there are nearly 2 grains of potassium, so that an individual eating this amount would ingest at least 4 grains of potassium with an ordinary meal, not counting the sodium, magnesium, and calcium.

In nearly every case of pellagra that I have investigated, I have found that the patients were hominy-eaters. Hominy is made from corn and prepared with lye; lye being potassium hydrate. Pellagrins also usually eat bacon and ham, or corn-bread and canned corn, and by this diet saturate their bodies with potassium, changing the acid phosphates of potassium of the brain and nerves to alkaline phosphates.

By surcharging the brain, muscles, and nerves with potassium, the phosphates are dissolved from the nerves and brain-tissue, as well as the muscles, and this weakens the individual; nerves break down, the brain gives way, and the patient becomes insane and dies. This disease is first manifested by diarrhea, indigestion, gastritis, dermatitis, stomatitis, and salivation. In those who go into the sun or light, especially, the disease is localized in the skin as potassium hydrate, which, being caustic, tends to set up a dermatitis and exerts a saponifying action upon the skin-fats.

I have recently discovered a test that, to my knowledge, has never been mentioned. The perspiration of a typical pellagrin is alkaline, changing red litmus-paper to blue. The secretions of the ulcerations on the arms and face are intensely alkaline, and the odor is similar to that of soap; for that is the process that is really taking place upon and beneath the skin, due to the air causing a deposit of potassium hydrate.

The renowned Bouchard, of Paris, in his book on autointoxication, says that potassium is thirty times more poisonous than sodium. Billroth caused scurvy in frogs with sodium chloride.

In a private letter, Dr. H. W. Wiley, quoting from Wolff, states that 33.92 percent of the ash from corn is potassium carbonate. The average composition of the ash of corn, is as follows:

Potassa, 33.92 p. c.; soda, 7.72 p. c.; lime, 3.18 p. c.; magnesia, 17.99 p. c.; iron, 0.50 p. c.; phosphoric acid, 35.25 p. c.; sulphuric acid, 0.44 p. c.; silica, 1.0 p. c.; moisture, 10.83 p. c.; proteins, 9.88 p. c.; fat, 4.17 p. c.; ash, 1.36

p. c.; cellulose, 1.71 p. c.; carbohydrates, principally starch, 71.95 p. c.

Therefore, when corn is used as a food, and the other substances taken along with it also contain a large quantity of potassium, there is a likelihood of intoxication with this substance. Hence, people who are taking potassium medication or who partake of corn-foods along with ham or bacon may develop gastric and intestinal indigestion and ulcerations that present all the characteristics of chronic potassium-poisoning.

Potassium-poisoning, pellagra, and scurvy all present the following symptoms:

Stomatitis, gingivitis, gastritis, diarrhea, vomiting, diminished coagulabilty of the blood, disintigration of red blood-corpuscles, dermatitis, physical exhaustion, mental depression, and insanity.

Another point: Pellagra occurs frequently in insane-asylums, where the bromide-salts are largely used and hominy is much used as a food. Scurvy is more frequent on ships and in prisons.

To summarize: Large numbers of patients have pellagra when fed on a diet of "hog and hominy"; while those controlled and fed mainly on meat as in prisons suffer from scurvy. In the Peoria (Illinois) Insane Hospital, there were between 80 and 90 cases of pellagra, and the investigators failed to discover any cause, after a month of investigation; yet, they overlooked the fact that 10,000 pounds of hominy made in the institution were fed to the inmates, and the attendants who ate separate foods were not attacked.

Dr. Joseph Goldberger recently announced that he had discovered the cause of pellagra in the consumption of an excess of starchy foods. He came near the truth; it was the excess of potassium in the starchy foods which caused the pellagra. Doctor Ledbetter and Doctor Dowling, both of New Orleans, recently announced that pellagra was noncontagious, and they were absolutely correct.

I have had one case of pellagra, in a syphilitic patient. I put him on potassium iodide, and he grew rapidly worse. As soon as I could eliminate the potassium, he grew better; but, in trying to control the syphilis, I again put him on iodide of potassium, whereupon his fingers and toes became gangrenous and he died.

For several years I have had under observation a patient who never ate corn or cottonseed-oil, in any way; his diet consisting of bacon, this containing 20 grains of potassium nitrate to the pound, and saleratus-raised biscuits. Changing his diet to fresh beef and light bread, he recovered, but on going back to his saleratus-biscuits and bacon, he relapsed. Substituting baking-powder biscuits, containing 10 grains of alum, the patient again recovered, except for slight discoloration on the face.

M. H. Evans.

Joplin, Mo.

[We regret that we have been compelled to condense Doctor Evans's address slightly. It was read before the Cherokee County Medical Society, Galena, Kansas, on August 11, 1915.—Ed.]

SODIUM STARVATION AND PELLAGRA

In the March, 1915, number of Clinical Medicine, there were printed three articles on the subject of pellagra, of one of which I was the author, and in which I tried to demonstrate the probability of the cause of the disorder being a diminished sodium equilibrium of the body-economy. Coincident with this, was an article by Doctor Perdue, in which that writer recommended the use of sodium citrate, but assigned a different cause to the disease, namely, the presence of colloidal silica in drinking-water.

Since then, I have observed that quite a number of clinicians have been using the sodium-treatment, while I myself also have had opportunities to employ it, with most gratifying results. A patient who has been under treatment for some time, but who has been able to have the injections given only at intermittent periods, always shows marked improvement during such a course of the injections, but begins to fall off again almost immediately upon being stopped.

This fact would seem to be an important confirmation of the equilibrium-theory; for, physiology teaches that, when the sodium equilibrium is low, most of the salt ingested is excreted again until the point is reached where the equilibrium is raised to normal. My patient receives no other medicines besides the sodium-citrate injections (daily 20 to 25 minims of a 10-percent solution) and, by mouth, half a teaspoonful of sodium bicarbonate in a glass of water, taken three times a day, two hours after meals; also, when necessary, enemata of sodium bicarbonate every three or four hours, in order to control diarrhea and tenesmus.

Other doctors in Texas, I find, have recently been using picric acid, and report brilliant results.

Some doctors, we see, use one thing and some use something else, and all these remedies seem to act as specifics; and this fact leads to the inquiry as to whether the cause of pellagra may not lie in some chemical condition of the tissues the nature of which could be discovered if each of these putative specifics were closely studied as to its physiological and chemical behavior.

It may be that these multifarious remedies all produce the same ultimate result, some directly and others perhaps indirectly, in that they serve to increase the percentage of sodium in the body. The purin-bodies are great devourers of sodium, and I have discovered that tomatoes, which are rich in purins, are particularly injurious to pellagrins.

If, then, sodium is taken in and assimilated in sufficient amount to neutralize these acid bodies of one's food, or, if a substance other than a sodium compound is furnished, one that will combine with them and thus save the systemic sodium, these purins cause no untoward symptoms, merely being oxidized and excreted. With this in mind, I have inquired of Mexican doctors as to the prevalence of pellagra in that country, and they declare that it practically does not occur there. It is well known that the Mexicans subsist principally upon corn products, but also that large amounts of lime and soda are used in the preparation of their corn.

The favorable action of picric acid in this disease possibly may be ascribed to its powerful oxidizing qualities, whereby it substitutes itself for the sodium bound up in the purin-combinations and thus sets this sodium free to be utilized by the tissues. Also, when oxidized, the purins are readily excreted and, consequently, eliminate the trouble-makers from the system.

A perusal of my March article will show authentic proof that arsenic retards the formation of purins; calcium sulphide will, doubtless, combine with them, as a substitute for sodium; and we know that the elimination of certain articles from the diet decreases the amount of purins. May we not, then, with reason, suspect that all the other reputed curative substances may possibly be acting in some such way also?

GEO. D. FAIRBANKS.

Brownsville, Tex.

ANOTHER SMALL BABY

I was greatly interested in the report, in your June issue, by Doctor Campbell, of Sabinal, Texas, regarding the small baby. I can report a similar case here.

The child was born at the end of the thirtieth week of pregnancy, and the labor, with breech presentation, was a dry and unusually long one. At birth, the baby weighed less than 2 pounds and looked like a little old man, but now the look of senility has been replaced by one of healthful infancy.

A small baby.

At 6 months, it had an attack of bronchitis (temperature 104° F. for a short time). The baby, whose picture I enclose, is now 13 months old and weighs 15 pounds.

This baby, whose mother is 37 years old, has three brothers and two sisters. At present, the little fellow gives promise of developing into an intelligent, useful citizen, of whom we shall be justly proud.

J. T. THOMAS.

Caledon, Ontario, Canada.

PRECOCIOUS DEMENTIA, AND THYMUS INSUFFICIENCY

In a contribution to the *Norsk Magazine for Laegevidenskaben* (1915, No. 10), B. Ebbell advances the theory that dementia præcox in some way is connected with some primary anomaly of the thymus gland; for, he declares, both the clinical as well as the pathologic-anatomic changes can be explained as a sequence of thymus insufficiency.

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

[*Continued from page 977, October issue.*]

AS the result of neuritis, the function of the muscle is affected, there is pain on motion, and frequently there are painful twitchings and muscular contractions. The tactile sensation of the part may be deadened even where there is increased pain. In the chronic type, severe pain is not generally present, but there remains a soreness and numbness for a long time. This is particularly true of the brachial neuritis, and the great pain and soreness often is most felt when the arm is lowered after having been elevated. In some cases, there can be felt a swollen cordlike sensation, with a distinct tenderness upon pressure. In this form of neuritis, degenerative changes may take place, causing loss of motion and atrophy, and in the involvement of the musculospiral nerve there may be wrist-drop. An extension of the process may cause contracture of the fingers, or the so-called claw-hand.

If the neuritis is of the rheumatic type, nodules may be found on the finger-joints. These may or may not be tender. In some, fortunately more rare, cases, there may be the ascending type of neuritis, with a rapid degenerative change, progressing through the main nerve-trunk to the spinal cord. This is more likely to be the result of traumatism than of any other cause.

The larger nerve-trunks are more susceptible to neuritis, and it may extend either up or down, more commonly up. It may become bilateral, either by spinal-cord extension or through the sympathetic system. There may be slow or sluggish reaction to the constant current or the reaction may be almost as pronounced as in the normal muscle.

The duration of neuritis varies from a few days to several months, according to the involvement.

The cases that most frequently come to our notice are those of the milder type. In these, there are no degenerative changes. They show marked tenderness on pressure upon the affected areas, and relief is sought because of the pain, felt principally when the muscle is in use, while less so when in repose. In the brachial form, the pain is greatest when the arm is elevated, as in combing the hair or in buttoning the dress.

In the sciatic form of neuritis, there may be a history of gout or rheumatism. Here the involvement is of the trunk of the nerve or its cords of origin. The most sensitive points usually are over the sciatic notch or at a point about the middle of the thigh. The inflammation often is interstitial, and the nerve is red and swollen, as is demonstrable at the time of operation of stretching. The pain is of the burning or boring type, and may be paroxysmal, but often is constant and usually worse at night. Posture and motion generally affect it, and one is prone to walk on the tip of the toes, in order to prevent jarring and to relieve the tension. In some cases of long standing, we find considerable muscular atrophy. Occasionally there may be found herpes along the course of the nerve.

The diagnosis usually is easy, but there is a possibility of confusing it with sacroiliac disease. The use of the x-ray will easily determine this.

The prognosis, as a rule, is good, but the time required for a cure is variable, owing to the many factors present in the given case.

The treatment of neuritis may be considered from both the medicinal and the physiotherapeutic standpoints. The usual form of treatment with drugs has ever been most unsatisfactory, particularly when the sciatic nerve is involved; therefore, it is natural that the live physician should look around for other methods of treatment that may offer some hope. That neuritis in most cases is cured, can easily be demonstrated. There may be a small number of incurable cases, proportionately, but even some of these may be benefited if treated by means of physical methods. This has been proved repeatedly by a number of physicians who have used these measures.

In the treatment of neuritis, we must not lose sight of the causative factors of the individual cases, for, these often are guides to a successful outcome. We must take into consideration the patient's method of living, occupation, diet, and habits in general, if we are to expect the best results, for we must not treat cases empirically. If the diet is faulty, correct it, for, we often find that the patient does not use a well-balanced diet, especially in those cases of lowered nutrition. This holds good also in some cases in which neuritis follows a long spell of sickness, when vitality is lowered and diet has been faulty.

If occupation is a cause, wherein pressure upon a nerve or set of nerves acts as the factor, the first thing to do is, of course, to stop the work, at least temporarily, giving the nerve a chance to rest and recover.

In those cases of neuritis associated with other diseases, it is important to treat the systemic fault at the same time that the neuritis is being attended to.

It is not unusual to have neuritis in cases of toxic hypertension, and here it is very essential to care for this high blood pressure, by the use of the high-frequency current by the autocondensation method. Diet here plays an important part, for the proteids must be very largely cut out, if not entirely.

Neuritis from pressure merits more than passing attention. These cases are not always patent, but require considerable study and investigation. This particularly obtains in the sciatic form. In women, we must bear in mind the possibility of uterine displacements as also pressure from poorly fitting corsets. In men, we should examine each case for a possible enlargement of the prostate gland, even though there be no vesical symptoms to attract one's attention to that part. In either sex, we may find indurations causing pressure, so that it always is important to follow the nerve course by palpation, in order to locate any pressure from this cause. Adhesions to the muscle-sheath or at a point of exit of the nerve from the bone play their part. In these cases, manipulation properly applied has great value. This can be demonstrated in the occipital and supraorbital types. To treat neuritis successfully, one must be willing to recognize all kinds of treatments that have proven of value, even though this may lead to a radical departure from all of the laid-down methods of the past.

I wish to say a few words now about arthritis deformans. I have an opportunity of studying a great number of patients suffering from this disease, and, while I believe that in many cases the disease can be traced to a pathogenic germ, not all of them can, by any means. Many cases of arthritis deformans arise at those periods at which the metabolism of the tissues is undergoing a marked change, such as puberty and the climacteric. I believe that the disease may be due to some infection, and also it may be owing to some nervous disturbance not necessarily the result of any germ but, rather, perhaps, to a toxemia affecting nutrition. There seems to be, unquestionably, a tendency in some families to this disease, or, rather, to be more exact, a tendency to inflammation of joints and fibrous structures. Thus, a family history of various rheumatic affections and gout is often elicited. Moreover, women are more subject to the disease than are men, in the proportion of, between five and ten, to one.

In practically every case of arthritis deformans that I have treated, I have found a high degree of urinary acidity, with, in the majority of instances, marked indicanuria. Acidemia and intestinal toxemia are frequent accompaniments of the disease. I have not succeeded in relieving the distressing symptoms much until I have overcome the acidemia and intestinal toxemia. I have noticed also that fully ninety percent of patients afflicted with arthritis deformans suffer also from neuritis and are obstinately constipated. The mud-baths seem to have a good effect in these cases, but, in addition, we see to it that the bowels are kept free and intestinal fermentation is lessened as much as possible, digestion improved, and the acidemia reduced by means of appropriate alkalis.

If a primary focus of infection is found, treatment is instituted accordingly, preferably with autogenous vaccines. Passive and active exercise are indicated, according to the condition. Of drugs, I have found guaiacol carbonate, arsenic, iron, and in some cases potassium iodide to be of the most value. General tonic treatment is indicated, of course. The high-frequency current, by improving the general nutrition of the patient and restoring the nervous tone, sometimes is of service, but the local conditions are very little affected.

Regarding diet, I am accustomed to prescribe one that is more than usually nutritious, save in cases complicated with gout or occurring in plethoric elderly women at the climacteric. I allow my patients to have meat, fats, vegetables, and fruits. Starchy

foods, pastry, and sugar being prone to excite flatulent dyspepsia and intestinal toxemia, are to be limited.

I do not give my patients any special dietary, save sometimes those suffering from dilatation of the stomach or marked gastric or intestinal indigestion. I do not think it is so much a question of the kind of food in these cases as it is the quantity at each meal. I advise them to eat often and lightly, but of good nutritious food.

While these subjects cannot be completely cured, I think much can be done to relieve many of the distressing symptoms and to check the further progress of the disease.

It affords me great pleasure to observe the renewed interest that is being taken in therapeutics, for, I believe that our ultimate concern, as a profession, is, the prevention and cure of disease. The therapeutic art is the final goal to which the training of the medical student should be directed. As Jacobi recently said: "We live in the era of therapy—therapy in political, social, and individual life."

I have maintained for years that the best way to do away with nostrums is, to provide for our medical students thorough courses in materia medica, medical pharmacy, pharmacology, and therapeutics. The way to abolish proprietary medicines is, to teach medical students how to prescribe and to acquaint them with the physiologic and therapeutic action of drugs; they should be taught how to write or compound prescriptions so combined as to meet the indications for which the prescription is intended, in a scientific manner.

If our medical students were able to do this, there would be fewer therapeutic nihilists; secret nostrums would be relegated to antiquity and it would mark the beginning of the end of sectarian schools of medicine. But, how is it now? There are many colleges that do not teach materia medica and therapeutics at all, and there are some state examining boards that do not examine on these subjects. The average medical student today comes out of college with very little knowledge of these branches. He goes to the bedside, ignorant of these matters and not knowing the action, uses, nor, many times, the doses of drugs; and, not knowing how to write a prescription, he naturally falls back on some nostrum. Is it any wonder that the people resort to "patent medicines" and patronize quacks? Physicians, themselves, are to blame for the discredit which the lay press casts upon the medical profession, not alone because of their ignorance and skepticism regarding the value of drugs, but because of the bitter controversies among themselves.

There are in our ranks therapeutic nihilists and therapeutic enthusiasts, and the illiberality, bigotry, and "scrapping" of these men over nonessentials have retarded progress in therapeutics. At the best, as Gregg says, "our advance has been rather by slow and patient endeavor and calm and deferred judgment—line upon line, precept upon precept, here a little and there a little." So have we climbed and so must we continue to plod along our way. The history of medicine is full of the announcements of cures and systems of cures that in most instances have been relegated to the rubbish heap by the test of time. After all, we have few, if any, specifics. The practice of medicine still is difficult and oftentimes discouraging; but, after all, our best therapeutic friends are, perhaps, the old time-honored drugs.

Socalled nonmedicinal therapeutics have a place, and a large one, in the healing-scheme, but they can never entirely replace drugs in the treatment of disease. It is our duty to seek a happy medium between therapeutic nihilism and polypharmacy, and even to study the principles that govern the rational treatment of disease.

Our aim, as teachers of therapeutics, should be, if possible, to make it a science as well as an art, to teach rational rather than empirical methods, and to trace the relations between therapeutics and biology. We must confess, however, that we are still far from being able to explain the principles of much of our treatment, and a great deal of our drug treatment still is empirical; but the rational increases every day, and much of the old empirical disappears. While the modern physician is dissatisfied, and should be dissatisfied, with empiricism, we cannot as yet abandon all our empirical methods. We knew, as did our ancestors two hundred years ago, that mercury is good treatment for syphilis, but only recently have we learned why mercury thus acts as a specific. We believe that the salicylic radicle is useful in acute articular rheumatism, and we guess at the secret of its efficacy. We speak of certain drugs as "specific" for certain diseases, meaning thereby that they seldom fail to produce good effects, but as to the infinite number of processes intervening between the administration of the drug and the beneficial result we know next to nothing.

Among the Books

LEWIS: "THE HEART"

Lectures on the Heart. By Thomas Lewis, M. D., D. Sc. New York: Paul B. Hoeber. 1915. Price $2.00

This little monograph comprises five lectures delivered by the author while on this side of the Atlantic in 1914; three of them being the Herter lectures, given at Johns Hopkins University; one, the Harvey lecture, delivered at New York; and one, an address made to the faculty of medicine at McGill University, Montreal. The whole is an exposition of the science and clinical application of electrocardiography, as worked out by the author (physician to the City of London Hospital and lecturer on cardiac pathology at University College Hospital, London) in his laboratory and his clinical wards. One of the most important objects of the book, indeed, is, to emphasize the advantages of intimately combining clinical and laboratory observations in the study of this subject. It is not to be expected, of course, that the book will make any great appeal to the average physician, being altogether too elaborate and technical. But there is no doubt that it is a most valuable contribution to the sum of our scientific and clinical knowledge concerning electrocardiography.

BASS AND JOHNS: "PYORRHEA"

Alveolodental Pyorrhea. By Charles C. Bass, M. D., and Foster M. Johns, M. D. Philadelphia and London: The W. B. Saunders Company. 1915. Price $2.50.

Curiously enough, pyorrhea, this subject upon which, above all others, medicine and dentistry have clashed for the last fifty years, seems destined to be the very point upon which they will reunite. For many years medicine has been insisting upon the systemic character of pyorrhea, while dental pathologists have been advancing arguments to establish its purely local nature and its bacteriologic origin. Then came Barrett and Smith, of the University of Pennsylvania, representing respectively the medical and dental departments, and by a masterly series of research and experiment demonstrated that pyorrhea is an entamebiasis, to which, of course, the metabolic condition of the body contributes its etiological role. Then this demonstration was confirmed and further elaborated by the painstaking work of Bass and Johns, both connected with Tulane University (New Orleans), the authors of this book.

The book sets forth the results of the joint work of the authors anent pyorrhea; its principal significance, however, in our opinion, lies in the fact that it calls upon dentistry and medicine henceforth to join hands and merge their forces in a concerted and intelligent crusade against this widespread disease, by developing measures of prophylaxis and of cure. Simultaneously the way to these ends is pointed out by authors, who by their investigations have taught us the nature of the disease. The second half of the book is eminently practical, being devoted wholly to a clinical consideration of the diagnosis and treatment of pyorrhea. Neither doctor nor dentist can afford to ignore this first authoritative presentation of a subject that hourly is growing in importance.

"INTERNATIONAL CLINICS"

International Clinics. Edited by Henry W. Cattell, A. M., M. D. Volume III, twenty-fifth series. 1915. Philadelphia and London: The J. B. Lippincott Company. Price $2.00.

The *piece de resistance* in this latest volume of International Clinics is a clinical lecture on gonorrhea and its complications, by Dr. Lewis Wine Bremerman, of Chicago; which is a capital exposition, in plain, face-to-face language of the author's methods of dealing with the conditions in question—for all the world as though the reader were attending a clinic by the Doctor. It is impossible, of course, to mention by title every article in the volume, let along making any comment upon each one. There is an excellent group of articles, under the heading of Borderland Medicine, worth anybody's while reading and digesting, especially the first and last one of the series, "One Hundred Thousand Men Minus," by John Ashburton Cutter, and

"The Malingerer," by Bernard Glueck. There is also a timely and interesting account of "War Experiences and Observations in Germany and France," by L. Rahm. Other contents of the volume are exceedingly interesting and valuable—no doubt more interesting and valuable to many readers than those which we have singled out for remark.

DELORME: "WAR-SURGERY"

War-Surgery. By Edmond Delorme. Paul B. Hoeber, New York. 1915. Price $1.50.

Every considerable war that has taken place within the lifetime of scientific medicine has evolved many and valuable lessons in surgery; and in medicine, too, for that matter, but, naturally, the most original and *de novo* discoveries and observations have been in the way of surgery, chiefly of emergency-surgery. No man has shown himself a more intelligent observer of these lessons or an abler interpreter of them to the profession than Doctor Delorme, formerly on the consulting health-committee of the French army and now medical inspector in chief.

In the Franco-Prussian war, the American civil war, and the Russo-Japanese war, Doctor Delorme was a close and keen observer of the developments of military surgery, and on each occasion gave the results of his observations to the profession, in the shape of a most interesting and instructive book on the subject. Now, in this greatest of all the wars of history, he is again at the front, alert as ever, and is already beginning to give us the fruits of his experience. In this little book, almost every form of injury received on the firing-line is dealt with, clearly, concisely, illuminatingly. The best feature of the book is the keen judgment with which the author deduces general principles of treatment from the sum of the cases that have come under his observation.

BULKLEY: "CANCER"

Cancer: Its Cause and Treatment. By L. Duncan Bulkley, A. M., M. D. New York: Paul B. Hoeber. 1915. Price $1.50.

Of all the problems yet remaining for solution by medical science, that of cancer is, by all odds, the furthest-reaching and the most serious in its import to mankind at large. It would seem to be the one pathological condition that has steadily refused, and up to the present moment continues to refuse, to yield to modern research a single iota of trustworthy information concerning itself, in spite of the persistent, systematic effort directed toward the task from every angle of attack. Yet, even in the present unsatisfactory state of our knowledge, it would be untrue to say that we are wholly without means of controlling its course; for, we do know at least a few practical points about cancer, thanks, principally, to the painstaking observations of the clinician, which, even if only more or less empirical in nature, nevertheless are of great practical, even scientific, value.

It is what he thus has observed that the author, senior physician at the New York Skin and Cancer Hospital, sets forth in his little book. He takes a decided stand and propounds a positive theory—rather a little too decided and positive, one might be disposed to think, than the status of the subject warrants. At any event, it is a definite contribution to our study of cancer and is constructive, in the sense that it offers positive means of relief. Especially interesting is the author's view on the relation of diet to cancer and his faith in medical agencies of treatment. Whether one agrees with it all or not, he is bound to accord it respectful consideration; and one feels that it contains a great deal of sensible truth.

MUELLER: "LOSS OF HAIR"

Loss of Hair: Baldness, Falling Hair, Prematurely Gray Hair, and Seborrhea, Successfully Treated by the New Quartz-Light-Rays. Translated, from the German of Nagelschmidt, by Richard W. Mueller, M. D. New York: The William R. Jenkins Company. 1915. Price $1.50.

The reviewer remembers quoting to his father, on one occasion, the passage of scripture about money being the root of all evil, to which the latter, who was a shrewd Lowlander with a keen sense of humor, replied that he suspected that the man who made that statement had lurking in his mind the negative idea of the absence of money. Upon reading the title-in-chief of Doctor Mueller's book, the reviewer had much the same sort of notion, though in the reverse direction—that, in speaking of the *loss* of hair, the author had in his mind the positive idea of restoring it. And so it does appear.

Only a very small portion of the book is devoted to a discussion of the loss of hair; by far the greater part deals with the various means of making the hair grow again, and of

this means, as the sub-title implies, the quartz-light radiation forms the base. The author does state, however, that he has found the D'Arsonval-Tesla current "an exceedingly effectual substitute for persons who might not be able or willing to undergo the quartz-light treatment." He adds: "Even in some cases I would recommend the high-frequency treatment in preference to the other."

RUHRAEH: "DISEASES OF CHILDREN"

A Manual of Diseases of Infants and Children. By John Ruhraeh, M. D. Illustrated. Fourth edition, revised and enlarged. Philadelphia and London: The W. B. Saunders Company. 1915. Price $2.50.

No pretense is made, either by the author or the publishers, that this little book can replace the larger, necessary, textbooks on pediatrics, but it is offered for the purpose of enabling the student to grasp quickly the more important parts of the subject and to furnish him with a ready reference-book for clinical use. It represents a careful epitomization of the best textbooks and the most trustworthy of the current literature.

The present edition is considerably larger than the preceding ones, and it contains some important additions, among which may be mentioned an article on pellagra in children, a chapter on drug-eruptions, and also a full account of the Binet-Simon test for the mentality of the child. However, with all this amplification, the present volume has been kept within the limit of size, which makes it peculiarly useful for rapid reference in wards or clinics, and as a deskbook for the practicing physician. The section on infant-feeding is a great deal fuller than one would expect to find in a work of this scope.

BURR: "NERVOUS DISEASES"

Textbook of Nervous Diseases. By Various German Authors. Authorized English Edition, edited by Chas. W. Burr, B. S., M. D. In 2 volumes, with 156 illustrations. Philadelphia: P. Blakiston's Son & Co. 1915. Price $12.00.

The German contributors to this book are all well known to American physicians and need no introduction. The various articles are based upon the personal knowledge and experience of each respective writer, who presents his own well-thought-out and mature opinions. While the work is purely scientific in tone and conservative in attitude (a matter of much importance in these days, when so much wild doctrine is being promulgated, especially as to mental therapeutics), it has not been forgotten that the only useful knowledge is that which leads to sane therapeutics.

The translators have done their work faithfully and given an accurate rendering of the original language. Opinions differ, of course, as to the comparative values of a book written by many authors and of a one-man work. These relative advantages are discussed in the original German edition, but not in the translation; however, this discussion is immaterial, as it does not affect, one way or the other, the intrinsic merits of the work itself. The American editor has retained the many references to European health-resorts, as he explains, not because he expects Americans to go abroad for such treatment (assuredly not in these days), but in order to encourage Americans to develop their own resorts. We trust that this purpose will be achieved.

SEIFERT: "PRACTICAL GYNECOLOGY"

Manual of Practical Gynecology. By M. J. Seifert, A. B., M. D. Chicago: The Chicago Medical Book Company. 1915. Price $3.00.

This book of Doctor Seifert's—who is an attending surgeon and lecturer on gynecology at the St. Mary of Nazareth Hospital, Chicago—represents the fruit of an extensive experience in teaching in the University of Illinois College of Medicine and other medical schools, and is published at the request of many of those who attended the author's lectures and clinics. It embodies several valuable features, among which the following may be mentioned: a new method of classification of distinct teaching-value; a plain, concise, comprehensive presentation of the physiology, pathology, and therapeutics of gynecology; instructions for the pre- and postoperative care of gynecological patients; menus and recipes for invalid diet and helpful suggestions for nursing; also a chapter on word analysis as applicable to medical nomenclature, a pronouncing glossary, and a profuse series of illustrations, the latter new and specially prepared for the text.

All in all, the book is a very practical one, and it should enjoy a large sale among nurses in training-schools and among those practitioners who are interested in gynecological work. It is full of practical ideas not found in other books of the kind and will fill a place not yet occupied by books on the subject by other authors.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopo.ize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Answer to Query

ANSWER TO QUERY 6028.—"Tic Douloureux." In reply to this query, published in the September number of CLINICAL MEDICINE (p. 887), I want to say that 30 grains of ammonium chloride, dispensed in camphor-water, and repeated every six hours, will cure tic douloureux. I have used it frequently, and always successfully.

W. S. CLINE.

Woodstock, Va.

Queries

QUERY 6042.—"Salpingitis." R. N. DaC., Illinois, has under treatment a woman 33 years of age, mother of five children, who till just before birth of the last child had always enjoyed good health. The husband contracted gonorrhea and the wife, not aware of this, refused medical advice when affected, with the unfortunate result that the newborn's eyes were infected; moreover, she had an ignorant midwife, and, so, the baby's eyes were neglected. At last the woman did seek medical advice, when the physician ordered her to the hospital. What was done there our correspondent does not know, but she refused to submit to the operation advised and now suffers from a variety of pelvic symptoms. This condition has existed for five or six months, and the baby has not been nursed since it was a month old.

"Examination disclosed her heart and lungs to be normal. The area about the appendix is tender, even painful, under palpation; her left side only slightly so. There is more space at rhe left and upper side of the os uteri ahan at the right, and at this point, it is only painful upon rather deep pressure; the right side seems swollen and is very painful upon the slightest pressure with the speculum; the os is discharging a yellow creamy pus and thick stringy blood-streaked mucus; the cervix and upper vagina are swollen and sodden-looking. After thorough cleansing, an attempt was made to draw down the uterus, but failed, the procedure being too painful. So, the vagina was packed with sterile gauze and a 4-inch bandage placed, to afford support. Later, the husband acknowledged infecting his wife, but said it would be absolutely useless to talk operation, whether there was pus in the tubes or not—and that is why they discharged the other doctor. Now, I want your best and most practical advice as to how to proceed to stop this pus, bleeding, and soreness; that is, the inflammation. I have textbooks, it's true; but, after I have read them, I find nothing to cover this case."

Frankly, doctor, you are in a very unfortunate position, and were we in your place, we should insist, absolutely, upon the patient's submitting to a thorough examination at the hands of a competent gynecologist and such operative interference as may be necessary. It would be unnecessary, we are sure, to discuss in detail the conditions which evidently follow a gonococcus-infection. It is understood that here we usually have to do with a subacute or a chronic condition that, as a rule, is not immediately dangerous to life, whereas in a streptococcic infection the course is acute, or active, from the beginning and always perilous throughout life. More or less permanent damage to the tubes results in either instance, and pelvic adhesions, sterility, and chronic invalidism will surely follow imperfect treatment; moreover, at any time the life of the patient may be endangered from recurrent attacks of peritonitis, fresh infection, rupture of tubal abscess or exhaustion following prolonged suppuration. You must impress these facts upon the woman, as well as her culprit husband.

In all cases of purulent salpingitis, septic endometritis must, of course, first be taken care of, inasmuch as a *tubal inflammation is beyond the reach of local measures.* Hence, if you desire to take very long chances, you must rely upon removing the uterine source of infection and trust to nature to limit the spread of the disease by throwing out plastic lymph. In rare instances, tubal inflammation subsides, or the disease passes into the chronic form, as would seem to be the case here, or at any time grave pelvic lesions may develop and place the life of the woman in imminent peril.

In the first place, doctor, have a specimen of the discharge examined, to identify the infecting microorganism, then improve your patient's physical condition as much as possible, and then bring her to Chicago for radical treatment.

In this connection, let us suggest that you read up on salpingitis, endometritis, and allied conditions. You will find the subject very thoroughly covered in Ashton's "Practice of Gynecology."

For the time being, give your patient echinacoid and calcium sulphide in rather large doses, with nuclein as alternant. The latter may be given hypodermically. Order copious hot alkaline antiseptic douches each night, and the subsequent introduction of depleting (magnesium sulphate) and chinosol suppositories, alternately; that is to say, depleting suppository one night, chinosol the next. Twice a week, at your office, apply to the cervical canal iodine, ichthyol, and glycerin, then (if thoroughly familiar with intrauterine medication), with a long-nozzled uterine syringe, introduce 10 drops of a solution of thymol iodide in sterilized vegetable oil. This should be deposited well up at the fundus, and drop by drop. Have your patient placed upon a highly nutritious diet, and maintain thorough elimination.

However, once more, we would impress upon you the absolute uselessness and grave danger (to the patient) of palliative treatment under the circumstances.

QUERY 6043.—"Emetine, Echinacea, and Inula (Helenin) in Phthisis." F. B. S., New Mexico, asks for printed literature on emetine hydrochloride. He has been using this alkaloid to some extent, but wants to know more about its properties, and doctors with whom he has talked in New Mexico seem more or less ignorant about this. After reading articles in CLINICAL MEDICINE (especially the report from Doctor Thatchell, of China), our correspondent desires to try it out on himself, as he finds a few tubercle-bacilli in his sputum.

The discussion of the physiologic properties of emetine presented in the standard works on pharmacology and therapeutics is decidedly incomplete, Cushny, for instance, saying that emetine and cephaëline "are not used in practical therapeutics"; however, if the Doctor will read the abstract of Lyons' article on page 948, October issue, he will get a very clear idea of the dangers attending the excessive use of this alkaloid.

Among the more recent articles on the action of emetine are: "An Experimental Study of Emetine Hydrochloride," by M. S. Maurel, in the February, 1915, issue of CLINICAL MEDICINE, and "The Physiologic Action of Emetine Hydrochloride," by Nielsen, in our March issue.

There is no reason why the Doctor should not experiment with emetine on his own person, providing he begins with small doses. Raeburn, whose work was reported in *The Lancet* (see CLINICAL MEDICINE, March, p. 253), was much pleased with its action, although he employed only 1-40-grain doses. In such dosage it would be harmless, but larger doses are worthy of trial. That emetine will control hemoptysis has, of course, been definitely proven, but its action is not yet definitely understood. Emetine certainly is a decongestant of exceeding value and there are reasonable grounds for believing that it may exert an inimical effect upon the tubercle-bacillus.

As to inula helenium and echinacea, it has quite recently been demonstrated that marked beneficial results follow the administration of these two drugs in phthisis. For the last five years this writer has administered and recommended the use of helenin (the active principle of inula helenium) in conjunction with calcidin, guaiacol carbonate, and nuclein.

Recently, von Unruh, of New York, presented a report on a large number (98) of cases of pulmonary phthisis treated by him with echinacea angustifolia and inula helenium. A specially prepared compound used by him is given by intramuscular injection, daily or less frequently, according to the toleration of the patient. Not the slightest general or local toxic action of any kind has been observed, as he writes.

Von Unruh confirms our contention that echinacea increases the phagocytic power of the leukocytes, and has demonstrated that it affects a shift to the right in the neutro-

philes—Arneth's count—where a shift to the left had previously obtained. He considers, therefore, that echinacea produces, in the blood, effects parallel with, and similar to, those produced by vaccines, without any of the objectionable features of the latter.

Inula controls night sweats, first increasing then decreasing expectoration; it decidedly promotes secretion by the gastrointestinal glands, and exerts a direct toxic action upon the tubercle-bacillus. Von Unruh asserts that the tubercle-bacilli manifestly are destroyed by inula. He says: "The effect of the drug is clearly to be seen under the microscope, a great number of bacilli showing signs of destruction in ever progressive degree. There is a steady, more or less speedy decrease in the number of secondary bacilli. They swell up, become thick, heavy, and granular, and disintegrate until mere dots or beads are observed. These fragments, or beads, do not stain readily, and the usual spore-forms show no tendency to proliferation."

Echinacea exerts no direct effect upon the tubercle-bacillus, but, as has been pointed out, hyperleukocytosis and leukopenia are directly improved, and thereby the proportion of the white cells to the red ones is rendered normal; the percentage of neutrophiles becomes normal; and phagocytosis is now evident, where formerly no sign of it could be detected. Naturally, by favorably influencing phagocytosis, the number of the bacilli also is diminished; moreover, there always takes place a speedy decrease of cocci and pus.

Von Unruh, as already has been stated, has employed a special preparation of echinacea and inula helenium, of which he injects 3 to 5 Cc., intramuscularly, at frequent intervals. He has not employed the alkaloid of inula, but states that the consensus of opinion among German and English investigators is that the alkaloid, if pure and stable, would prove of more value than creosote or guaiacol in the treatment of tuberculosis, as it has none of the objectionable features of creosote and in proper dosage does not irritate the stomach.

We have administered helenin and echinacea, with very excellent results. While, of course, it is possible that a still more pronounced effect can be secured by the intramuscular injection of a carefully balanced preparation, such injections are not always possible or even advisable, whereas both drugs can be given internally with perfect safety. We suggest, Doctor, that you obtain No. 1, vol. vii, of *The National Eclectic Medical Association Quarterly*, which contains von Unruh's paper.

Since you tell us that only a very few tubercle-bacilli have been found in your sputum, we believe that calx iodata, nuclein, and small doses of guaiacol carbonate, alternated with helenin and echinacoid, might prove more useful in your case than would emetine.

QUERY 6044.—"Polyarticular Arthritis." F. L. J., Kentucky, has under treatment a case of "rheumatism" which so far has not yielded to any treatment tried and requests advice. The patient, a woman 28 years of age and mother of two healthy children, has no specific or hereditary taint. On February 1 last, she began complaining of a severe pain on the bottom of her foot, midway between the heel and toes. Some swelling appeared at the end of the second week, when the pain left this point but attacked the great toe of her left foot, and then, after a few days, the same toe of the other foot became affected. This pain is severe and there is redness and swelling; it is worse at night and in damp weather. The kidneys apparently are normal. The bowels act once or twice daily. The appetite is good at all times. This migratory pain, however, continues despite all medication tried by our correspondent, who wants us to suggest a line of treatment and express our opinion as to the probable value of vaccines.

Before prescribing for your patient, doctor, we should like to have a much clearer idea of the condition of her body-chemistry. A specimen of her urine and a blood-smear should be sent to a pathologist for examination. Also, we should know what is the condition of the pelvic viscera.

This may be a case of metatarsalgia, or Morton's disease. Is there any flattening of the arch? Of course, usually only one foot is affected, but occasionally pain is experienced in both members. It would be well to find out just what kind of shoes your patient has been wearing.

Arthritis, of course, may present itself in just the way you describe. As you are aware, polyarticular arthritis is observed most frequently in women; the twenty years between the ages of thirty and fifty cover the largest number of cases. Heredity is not proven, but undoubtedly the belief in arthritism in families is more or less widespread. Damp, cold locations, and deficient sunlight are predisposing factors. Today, however, we are inclined to the opinion that septic absorption

is at the root of most of these cases. Among the commonest sources are, pyorrhea, tonsillitis, cystitis, and gastrointestinal fermentation (retention-toxemia).

In this connection, we would call your attention to the various articles that have appeared in CLINICAL MEDICINE lately on emetine-therapy, especially those dealing with the disappearance of arthritic conditions subsequent to the correction of an existant pyorrhea after a course of emetine.

As you will readily understand, treatment in this particular case, if it is to be at all effective, must be based upon a clear conception of the basal pathology. An appropriate bacterin might prove materially beneficial.

QUERY 6045.—"Hemiplegia of Obscure Origin." W. H. Y., Arkansas, writes us that he has in his care a boy of 12 years of age, who, otherwise healthy, recently had "some little tonsillar trouble," but never has had rheumatism. He was suddenly taken with a weak, tired feeling; he had no fever, but on the third day he experienced difficulty in moving his right leg and arm, that is, paralysis in a very light form. He has severe cramps, and moans or whines all the time when not under the influence of medicine. He has had no injury and shows no marks to indicate any violence. "Could it be," our correspondent asks, "a true paralysis, caused by a clot, or is it a spinal trouble, with a nerve lesion?"

We regret to say that without a much clearer idea of basal pathological conditions it is impossible to venture a diagnosis. You state that the boy had some little tonsillar trouble. Has there at any time been suppuration? What is the family history? It is quite possible that the hemiplegia may be caused by an embolism or thrombosis—the latter usually observed in marantic conditions and occasionally resulting from syphilitic endarteritis.

You do not name the location of the cramps or character of the moan. Is there opisthotony? Spinal puncture and examination of the fluid withdrawn probably would prove informative. The reflexes should be carefully tested, of course.

The absence of fever, under the circumstances, is somewhat peculiar. Is there now or has there ever been any middle-ear disease? Then, the possibility of a cerebral tumor must be considered. As you are aware, a tumor may occur at any age, without any definite etiology. Paralysis in such cases generally first affects one extremity, an arm or leg, according to the location of the growth, while afterward it may involve the entire side, including the face.

If you will make a thorough examination of the little fellow and report your findings, we may be able to be of more definite assistance.

QUERY 6046.—"Emetine in Vicarious Menstruation." E. M. B., Ohio, has in hand a bad case of vicarious menstruation and wishes to know whether emetine is indicated.

To the best of our knowledge, emetine has not as yet been employed in this condition; still, in view of its prompt action in other forms of hemorrhage, it may well be expected to prove useful here, too. It must not be forgotten, though, that disorders of the blood, nervous system, and nutrition, which so frequently constitute the basis, may materially limit the efficacy of emetine.

We have not a clear-enough idea of conditions to discuss the subject very intelligently. What, for example, is the site of the hemorrhage? Is there any ectopic bleeding?

In true vicarious menstruation, there is no uterine flow, but occasionally, with abnormal periodic bleeding, there may occur a monthly secretion of colostrum, profuse leucorrhea or even diarrhea. Epistaxis is most frequently observed, and occasionally bleeding occurs at the site of an old scar, from a raw surface or ulceration, the ear, conjunctiva, kidneys, bladder, larynx, the respiratory and alimentary tracts, gums, stomach, intestines, rectum, and so on. Also, the hemorrhage may be subcutaneous, and petechial points or ecchymoses are observed.

In nearly every instance, the use of emmenagogs, especially those direct in their action, is indicated. Marked results have followed the administration of nuclein, iron, and arsenic. However, we should be strongly inclined to give emetine a trial. Should you do so, we trust you will report your results for the benefit of the "family," and the profession at large.

QUERY 6047.—"Sarcoma of Kidney." J. T. B., Montana, sent a specimen of tissue from a 2-year-old boy, for identification. His diagnosis is, "kidney tumor." The quantity of fluid extracted was about one quart. The Doctor desires to know as to whether the lesion is tuberculous, cancerous or benign. He can get no history of the trouble for more than six weeks back.

The report of the pathologist shows that undoubtedly he has to do with sarcoma of the kidney (spindle-cell variety).

Peculiarly enough, primary sarcomata of the kidney are observed most frequently in children. About two-thirds of the cases reported as such have been in children of less than 10 years of age. The tumor usually reaches a considerable size, generally is soft, and sometimes even fluctuating, owing to the formation of areas of softening. Until the later stages, there is comparatively little disturbance of the general health. The urine may, for a long time, be entirely free from abnormal constituents.

Holt reports a case of sarcoma of the kidney in a child 13 months old, the tumor weighing 7 pounds. Unless a radical operation is performed, such cases invariably terminate fatally. In recent years, the results of operation have been most encouraging. The particular individual mentioned by Holt was followed for sixteen years, and the growth did not reappear.

We shall be interested in learning the outcome in this instance.

QUERY 6048.—"Normal Saline Solution. Fracture of Jaw." W. S. W., Georgia, asks:

1. "What is a normal saline solution, exactly speaking? Is it 1 ounce of sodium chloride in 16 ounces of water? I always have roughly guessed at this, but want to be accurate.

2. "I have a woman patient whose husband, a week ago, struck her on the angle of her lower jawbone. When she reached me six days later, she complained of much pain and there was considerable swelling both at the angle of the jaw and under the chin; the parts are 'lumpy' and very tender. Her temperature is 100° F. She could not chew anything and could open her mouth only partly. I ordered hot creolinated epsom-salt compresses for the sore jaw, to be renewed every two hours, also ordered the region painted with tincture of iodine, both externally and on the inner side. I gave her calomel, podophyllin and bilein granules, and salithia the next morning. This helped greatly, but today I still find those painful lumps under the chin and at the angle of the jaw.

"Is this condition amenable to local treatment or not? There may be a fracture at the angle, I cannot determine positively. If there is fracture at the angle of the jaw, why is there also a similar lump under the chin, where she was not struck? As I understand it, this 'lumpy' condition is due to an inflammatory exudate. Am I correct?"

1. Normal saline solution is prepared by adding 8 1-2 Grams of salt to a liter (1000 Grams) of water.

2. While it is impossible to speak definitely, we are inclined to think that your patient has sustained a fracture of the lower jaw. The fact that she can only partly open her mouth; that chewing is impossible, and that considerable swelling occurred at the angle of the jaw points strongly in that direction. Not infrequently indurated areas form under such circumstances, and even abscess may result.

See whether there is any inequality of the teeth, and with your thumb, carefully wrapped with gauze, placed in the mouth over the teeth, and the other fingers against the jaw, make pressure and see if you can cause any motion.

It is unfortunate, of course, that the woman did not consult you until six days after the lesion was sustained. Earlier, you would not have had so much difficulty in securing close apposition.

If you have access to any good modern work on surgery, say, Scudder's "Fractures and Dislocations," read the chapter on fractures and injuries of the lower jaw. A radiograph will, of course, prove informative.

Treatment of the swollen area will, necessarily, depend upon the exact conditions which obtain. If pus is forming, you may apply kaolin paste or hot moist compresses; then, as soon as the abscess points, lance, and evacuate the pus.

QUERY 6049.—"Diffuse Sclerosis or Cerebral Abscess?" C. W. H., North Carolina, requests assistance in a case that baffles him. The patient is a farmer, 56 years of age, whose family history is negative and personal history good, except for attacks of "rheumatism" some years ago. Fifteen to twenty years ago, he traveled in the South, camping out, and contracted malaria. He has not been in the South since, and there is no malaria in his section. Six months before his present illness, he was very nervous, his hands trembling so that he could feed himself only with difficulty. At times, while abed, he would cry out to his wife to hold him lest he jump out.

On September 2, the patient was found to be "bilious and nervous," with a temperature of 102 to 103° F. He said that first he had been cold, as if he had a chill. Later, he became very nervous, his hands shook as from palsy, and the cheeks felt thick and painful. At the time of my visit, no specia]

pain was complained of; his pupils appeared normal—and so continued throughout. My offhand diagnosis was, nervous prostration and malaria, the result of a latent toxemia, acquired fifteen or twenty years ago.

The patient's temperature was very erratic but the fever ran very much like that observed in malarial fever. There was pronounced insomnia, so that later the question arose as to whether the fever was not due to nerve irritation and excitement, rather than to malaria. The fever continued for about two weeks, then normal temperature reobtained. The shaking of the hands ceased about the same time, but immediately a seeming stupor of the mind set in, and this state continues. It is hard to arouse patient; he does not know where he is, and cries like a hysterical woman. Fever has been absent for now two weeks; all of the body-functions are working well, respiration and pulse are normal. The patient is very weak, though not unduly so, under the circumstances; he talks weakly and indistinctly, as if his tongue did not move with ease, but he can put it out when told to do so. He eats when food is brought to him, but has no desire for food or anything else. He lies in bed with his eyes closed most of the time, takes no notice of objects in the room or of his animals on the farm. At times he is entirely out of his mind: says that he is connected with someone, that is, with some other person or personality, or a double self, and asks if this person is aware of the connection in the same way that he is. Then, in the next breath, he will make a sensible remark about the taste of his medicine or give a reason why he does not wish to take a certain medicine. There is complete mental inertia. He cries when we fail to understand his mumbled and indistinct talk. He seems to know the members of his family when spoken to, but does not realize that he is in his own home and bed. A consultant suggests that softening of the brain may be taking place.

The patient is receiving 1 grain of calomel or of podophyllin each evening, to prevent constipation. Our correspondent submits the report of an examination of the urine and asks us to give diagnosis, prognosis, and treatment.

Unfortunately, doctor, as you omitted to state the amount of urine voided in twenty-four hours, we are unable to ascertain the total solids and urea. We note that a marked hyperacidity obtains and much pus is present, together with streptococci, staphylococci, and colon-bacilli; also a few hyaline casts. There is no diminution in the output of urea; in fact, if the patient is passing a normal amount of urine, elimination is excessive. Since only a trace of indican and skatol are present, we may exclude a serious degree of intestinal fermentation.

The presence of streptococci is particularly ominous, considering the clinical picture. The source of the pus should be definitely ascertained. It is possible that you have to do with a hepatic abscess. Under such circumstances, especially if absorption is going on, we should expect more or less hyperpyrexia.

What about the prostate gland? A very careful examination of this man is necessary. The blood should be examined. It is quite possible that, with the recognition of the infected area, institution of indicated therapeutic procedures would prove curative. Examine the spine. Test the reflexes, deep and superficial.

It is possible, of course, that you have here the prodromal stage of myelitis, but the symptom-complex leads us more strongly to suspect diffuse sclerosis. There really is little evidence of involvement of the cord.

As you are aware, in cases of cerebral softening, there is marked exhaustion, impaired memory, and emotional weakness.

A cerebral abscess might be productive of most of the symptoms recorded. He seems to have little, if any, implication of the speech-center.

On general principles, we should advise, first of all, to purge the patient smartly with blue mass and podophyllin; then give calcidin, mercury, and nuclein, in alternation with arsenic iodide. Neuro-lecithin might be pushed with advantage, 1-2 to 1 grain every three hours. We should apply small cantharidal blisters, about the size of a 50-cent piece, along the spine, beginning at the nape of the neck; applying them on alternate sides of the vertebral prominence, at about a 3-inch distance, every second or third day. As soon as the blister forms, it should be evacuated and the site dusted with borated talcum or other drying powder. It is not desirable to maintain the irritation.

Flush the bowels very thoroughly, every second or third day, with normal salt solution at body-temperature. If the skin is dry, put the patient in a hot-pack, keeping the head exposed and covered with a cold towel at similar intervals.

In examining this man, pay particular attention to the spleen. See if you can discover any abnormality at all of the organ.

The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use

Vol. 22. No. 12 DECEMBER, 1915

Three Kinds of Physicians

DR. THEODORE WILLIAM SCHAEFER, in *The Therapeutic Record*, writes of three types of physicians who, according to him, comprise the entire medical profession. The first of his types is the dollar-chaser, of whom, God knows, we have a great plenty, even if we do not agree with the Kansas City man in his including the specialists, along with "impressionists, thaumaturgists, and prestidigitators." One characteristic he gives of men of this class is the habit of "talking shop" at medical meetings—henceforth beware, O silver-tongued orator!

The third of his types is the research-man, upon whose portrayal Doctor Schaefer expends his choicest efforts, his most complimentary adjectives. Little appreciated, devoted to his work, the research-physician sojourns in the solitude of his laboratory, prying into the secrets of nature and endeavoring to discover some new truth. He is the one who ought to have all the patients; however, the "other fellows" get them. But the portrait seems false when we are told that this man "sacrifices his last savings in his blind zeal to make a discovery that would benefit mankind."

Between the two, Doctor Schaefer switches in the following caricature:

"To the second variety, belong all those sympathetic physicians who are devoting and sacrificing their lives to the care of the sick and injured for the mere love, glory, and pastime of the work, making the financial side of the practice of medicine a mere bagatelle or secondary incident rather than the object of its work. They look upon the pursuit of medicine as a kind of plaything or a mere benevolent hobby to idle away their time. With juvenile delight, they try every new medicine placed upon the market and experiment with the latest mechanical appliances as well as with diagnostic and surgical instruments. It is within the capacity of this kind of physicians to be popular, and they can usually be found moving busily about in the circle of society gatherings. Their names frequently flourish in the society columns of the daily newspapers. This class, as a rule, does not accumulate much wealth, except when specially favored by the fortunate possession of a rich inheritance or a wife who has means."

Do we clinicians find the practice of medicine a "pastime"? It comes nearer tragedy, often. Tragedy to the doctor, his family suffering for the necessaries of civilized life while he is bending over the bed of some

suffering pauper. Practice a "plaything," a "mere benevolent hobby to idle away their time! ! !" Where can Doctor Schaefer have obtained the basis for such a distorted view? Is there no such thing as a sincere and honorable desire to alleviate the ills of humanity and save valued lives from premature extinction? No sense of duty, of obligation, no such lively sympathy with suffering as leads to the earnest effort to relieve it?

Do we "try every new medicine with juvenile delight"? We always supposed, when we did so try, that we were seeking to improve our methods of treatment and for this reason gave a fair trial to any device that promised enough to justify it.

Possibly we are popular; not so much, mayhap, with our tailor and grocer and butcher, but with those who have reason to bless us. Yes, Doctor Schaefer is right—we do not accumulate wealth—we haven't time; we are too busy with Hodge's attack of typhoid fever to spend hours over Lady Maud's whimsies.

Why glorify the discovery of a new thing exclusively? Who is to try it practically and utilize it, when such experimenting is frowned upon and dubbed mere idle curiosity? Who is to put the new things, discovered by the research-man, to use, and why is it that only a new discovery is of value?

In which class does he place the modern research-men who have held the control of their discoveries and pocketed millions from their sale? How do they differ from the first class—the dollar-chasers? Is a mark-chaser better, intrinsically, than a dollar- or a franc- or a guinea-chaser?

If all the patients go to the research-man, when is he to get time for research? And what will he do with them—treat them by the best means applicable to their needs or try out his new discoveries?

Of all the types of the medical profession (and there are far more than three), we honor and love most the doctor unlimited—just plain doctor—the man who travels the roads and climbs the hills at all seasons and at all hours, never half paid for his services, always in financial stress, but true and good to the backbone and loved by every decent member of the community. This "just plain doctor" does not have time or equipment for original research, but he has all time to travel to Skunk Hollow and sit by the bedside of the fever-stricken child. He does not talk in society meetings, for he always has a case too bad to leave when the meeting is called; and, besides, he is too modest to talk before so many illustrious confreres. He hears of the million paid for salvarsan, and wishes he had a ten to buy his winter-suit. Now and then some Riley arises, who sees him as he is, and the doctor blushes at the warm appreciation expressed and wonders whether he really is all that.

The research-man is welcome to all he gets, of lucre and of fame; the dollar-chaser may rake together a big pile, therewith to ruin his children, as also to help us realize the necessity of another world to even up the wrong of this one; but, we hold with the doctor who spends his life in caring for the sick—the real doctor.

When men do not love their hearths, nor reverence their thresholds, it is a sign that they have dishoncred both, and that they have never acknowledged the true universality of that Christian worship which was, indeed, to supersede the idolatry, but not the piety, of the pagan. Our God is a household God, as well as a heavenly one; He has an altar in every man's dwelling; let men look to it when they rend it lightly or pour out its ashes. —John Ruskin.

FOOT-AND-MOUTH DISEASE

A little more than one year ago, the announcement was made that foot-and-mouth disease had broken out in the United States; however, the Federal Bureau of Animal Industry and the various state livestock sanitary boards, by vigorous measures—which consisted in destroying all infected animals and disinfecting the premises—succeeded, in spite of many obstacles and at great expense, in overcoming the epidemic.

There can be no question that the plan adopted was the most efficient and economical available. The amount of money expended in this work is trifling compared with the appalling loss that in the end would result should this animal-scourge become permanently established in this country. Those who are opposing the necessarily radical measures for eradicating foot-and-mouth disease do not comprehend the disaster that inevitably would result were this plague to continue; but, as usual, it is "the pebble in the shoe, and not the load upon the back," that hurts.

This outbreak of foot-and-mouth disease has been characterized by the unusually high susceptibility of swine to the infection and the relative immunity of sheep. Comparatively few cases of infection with this disease in humans have been reported, and most of these occurred in the early part of the outbreak, when public excitement was not yet pronounced and the diagnosis lacked veri-

fication. *The Bulletin of the Johns Hopkins Hospital* for October (1915) contains an excellent report of a case of the disease in man, illustrated by remarkably fine colored plates. The article also reviews the subject of foot-and-mouth disease and gives an excellent bibliography.

After nine months of vigorous efforts, when the disease appeared to be wiped out, the discouraging announcement was made that there was a fresh outbreak, brought on by infected antihogcholera-serum sent out by a concern located at the Union Stockyards in Chicago. As serum-plants engaged in interstate trade must be licensed by the Department of Agriculture and are inspected by the Bureau of Animal Industry, considerable criticism has followed, particularly in some agricultural and livestock periodicals.

In reply to these criticisms, an official statement regarding the whole situation has recently been made by the Department of Agriculture. The Bureau of Animal Industry made a careful investigation, but it has not been able to determine how the virus of the disease was introduced into this country; however, the disease was first discovered in the vicinity of Niles, Michigan. The Department of Agriculture also states that the infected antihogcholera-serum was tested upon animals before it was permitted to be sent out. Even when the evidence from the field indicated that the serum was infected, it was repeatedly retested, and the 62nd animal tested became affected with the disease.

This emphasizes the fact that we really know comparatively little about the causative agent of some transmissible diseases, particularly those caused by an ultramicroscopic organism or filterable virus, to which latter class the virus of the infection in question seems to belong.

Every unusual fact, such as the one instanced, opens up a narrow vista, not as yet anticipated by any investigator, into the vast unexplored regions in the realms of nature.

The federal authorities, after having taken the careful precautions shown by past experience to be effective, cannot be blamed for lacking information that is not in existence. What is needed is, vigorous support, professional and lay, of all measures calculated to hasten the elimination of this pest, and which will not hamper the effective work by bickering and recrimination. We believe there should be a more thorough supervision, by the federal government, of the various establishments that supply biological products for veterinary use. The use of such products is rapidly increasing, and they are efficient therapeutic agents; but, at the same time, the possibilities of their carrying transmissible diseases to the livestock of the country is also great, so that obviously some central authority having ample powers should protect the livestock-industry from such disaster.

Furthermore, we believe that the location of establishments for the production of biologic preparations in the vicinity of packing-centers or in other localities where there is a large traffic in animals is fraught with unusual risk to our livestock as to transmissible diseases. Such establishments ought to be removed as far as possible from possible sources of contagion.

Quarantines for the control of transmissible diseases, human as well as animal, always work hardships. Selfish interests have always hampered the best officials actuated by the highest motives in carrying out efficient measures. Our Federal Bureau of Animal Industry is eminently qualified to deal with transmissible animal-diseases, and it should be vigorously supported.

The morning drum-call on my eager ear
Thrills unforgotten yet; the morning dew
Lies yet undried along my field of noon.
But now I pause awhiles in what I do,
And count the bell, and tremble lest I hear,
(My work untrimmed), the sunset gun too soon.
—Robert Louis Stevenson.

WE WANT YOUR COOPERATION

One of the features of our coming January number will be a "free for all" symposium on "Sore Throat." We are desirous of getting a general response from our readers, inasmuch as we consider this topic of the utmost importance at this season.

All kinds of sore throat will be discussed—diphtheria, croup, tonsillitis, "quinsy," streptococcic sore throat, acute (or chronic) pharyngitis, acute laryngitis, tuberculous laryngitis, and other forms.

Take up the particular affection in which you have most interest and experience. We want helpful hints regarding treatment as well as suggestions on diagnosis. If you have developed a better method of dosage or of the technic in administration of antitoxin in diphtheria, please tell us about it. If you have found some local application peculiarly efficacious in laryngitis, tell us that. If you know of some simple operation useful in treating tonsillitis, give us that also.

It is hardly necessary to repeat that we want *short*, crisp articles. In order to give everyone of the "family" a chance to be heard, it will be necessary for each to be economical in words. Cut the peroration—omit the "frills"—give us the bare, unadorned facts.

Please do not delay sending us your little article. Our January number is to be one of our best, and we need your immediate co-operation to make it so. Need I say that this invitation is for *every* reader of CLINICAL MEDICINE?

God Almighty first planted a garden. And, indeed, it is the purest of human pleasures. It is the greatest refreshment to the spirits of man, without which buildings and palaces are but gross handiworks; and a man shall ever see that when ages grow to civility and elegance, men come to build stately sooner than to garden finely, as if gardening were the greater perfection. —Francis Bacon.

RISING TO THE OCCASION

A medical exchange prints the following abstract from a private letter written by a general practitioner in a manufacturing town some ninety miles from New York:

"My family is big and expenses increase in proportion to age, while my income grows less, from a multitude of causes. Contagious diseases are a rarity; obstetrical cases are tending toward the hospital more and more; district nurses do all the minor work, as well as attending to infant ailments due to feeding indiscretions; specialists are numerous and attract the cream of the cases. If only I had had the courage to strike out into some special line ten years ago, I could, probably, have lightened my burden and shortened my working-hours; but I must go on, the old family doctor, to the end."

In a certain sense, of course, all that this correspondent says is pathetically true, and we keenly appreciate and deeply sympathize with his growing realization that the younger generation is overtaking and distancing him in the race for position and place. That, however, is a state of affairs which is common to every worker, in every line of work, and does not pertain especially to medicine. We venture the assertion that there is no man, in any department of industry, who began work twenty-five or thirty years ago that has not seen the conditions and requirements and scope of that industry undergo vast changes, to which he must energetically adapt himself if he is to keep up with the procession—and, withal, wide-awake and progressive as he may be, he finds himself gradually giving way before the oncoming rush of the younger generation.

In this sense and to this extent, we sympathetically admit the truth and the poignancy of the rather affecting letter quoted; and we recognize, with regret, that, in a profession like medicine, where even at the best emoluments are meagre and there is little chance for laying up a surplus, this natural process of eclipse makes itself felt chiefly in a pinch upon the pocketbook. This effect of the irresistible and relentless march of time and progress upon the individual we regretfully and (for we—the one penning these lines—are fast nearing the line ourselves) wistfully concede. But we can not and will not admit that this same march of evolution and change is putting—or, at least, that it needs to put—the general practitioner, as a class, out of the running.

The modern *zeitgeist* requires a corresponding evolution and change in the practitioner. There is no doubt about that. Any man who imagines that he can go on practicing medicine in the same old way that his grandfather did and who idly or obstinately refuses to align himself with the trend of the times inevitably will find the times passing him by and himself left in the lurch. But he who will take a sensible inventory of the situation and of his own powers and opportunities will just as surely find that there still is an important and remunerative place in medicine for the general practitioner—yes, even for the family doctor—so that, while it may be true that he "must go on, the family doctor to the end," he need not and should not "go on, the *old* family doctor to the end," but may, and should, convert himself into the *new* type of practitioner.

There is neither sense nor necessity in the general practitioner's surrendering to the features and agencies of modern medicine—the hospital, the laboratory, the prophylactic organization, and the like. These are all intended to be the doctor's *handmaids*, not his rivals; if he allows them to develop into rivals, it is largely his own fault. The general practitioner is still in the saddle, until he himself voluntarily dismounts. It is not even necessary for him to have all these modern facilities or to perform, himself, all these modern services. He need not own a hospital or conduct a laboratory or be a specialist. But, he must have, and must exercise, an intelligent appreciation of their values and make a masterful use of them in his practice.

It is useless for the doctor to stand by idly and bewail the hard times, the high cost of living, the march of progress. These conditions he must meet with increased energy and resourcefulness, unless he is to fall hopelessly behind the procession. The very same conditions which impose new exactions also bring with them new opportunities. Remember Tennyson's characterization of the true statesman:

> Who knew the seasons, when to take
> Occasion by the hand and make
> The bounds of freedom wider yet.

He who applies the same broad, wise principle to the practice of medicine will ride triumphantly to success on the wave of progress and of change, instead of being submerged by its irresistible onsweep.

The highest compact that we can make with our friend is this: Let there be truth between us two forevermore. It is sublime to feel and say of another, I need never meet, or speak, or write to him; we need not reinforce ourselves or send tokens of remembrance: I rely on him as on myself; if he did thus or thus, I know it was right.—R. W. Emerson.

PROVIDING AGAINST THE EVIL DAY

In another editorial, we have set forth the complaint of an elderly practitioner of medicine, that the changing conditions, both in the profession and the laity, are leaving the general practitioner in the lurch; and we have tried to show that this is not so, but that the correspondent in question has mistaken an individual problem for a class-problem. It must be admitted, however, that our argument, while it disposes, as we think, of the general aspect of the question raised, does, in that very disposition, open up another problem that at least is deserving of an equally serious attempt at solution. We rather think that it calls even more urgently for attention, since the general problem will take care of itself, while this one will not.

What is to become of the elderly practitioner who has not been able to lay up a competence for his declining years and who at last finds himself unable to keep abreast of the strenuous demands of a general practice?

Well, the correspondent himself furnishes a key to the answer in one of those saddest of all sad reflections upon what might have been. "If only," he writes regretfully, "I had had the courage to strike out into some one line ten years ago, I probably could have lightened my burden and shortened my working-hours."

There, we think, is the solution, and the only practicable solution, of the problem. It again is a question of "preparedness." Nothing is so pitifully pathetic from the onlooker's standpoint, nothing so keenly tragic from the man's own viewpoint as old age unprovided for. And, little as we are accustomed to think so, the most tragic of all is, not the old age of complete helplessness, when one's physical and mental powers fail utterly, so that one must, perforce, submit to be cared for by someone else, but it is the old age of preserved functions and sensibilities, baffled of their desire to express themselves in activity. The old man who *could* work, who feels keenly the sting of uselessness, but who beats the air in an impotent idleness because he has not shaped his course to provide for his limitations— he, of all old men, is the most miserable.

Heaven forbid that any of the readers of CLINICAL MEDICINE should ever come to this state! They shall not, if any friendly admonition of ours can influence them while there yet is time to insure against it.

Of course, it is easy to say that every practitioner ought to lay up a little money against the day of declining years. Unhappily, this is not always practicable or even possible. Still, one can at least make provision against the time of diminished physical powers and bodily limitations by beginning, aforetime, to shape one's work in anticipation of that time. It is not necessary that one undertake to make himself a full-fledged specialist; that is hardly practicable, either. But there are many lines of practice to which the physician may more and more devote himself as time goes on, with a view to making them his modest "specialty" when he no longer can carry the whole burden—simple, congenial branches, such as lend themselves readily to his individual circumstances and capacities.

Thus, for example, the doctor may pay more and more attention to diseases of the nose and throat; he may take up refraction work, devoting himself to that exclusively; he may make a special study of chronic disorders, which do not involve any hurry-calls or emergency demands; in special instances, he may even establish for himself some relationship with the medical or popular press in matters pertaining to medicine or to public health, and thus turn his professional experience to account and profit. Any of these expedients, or any one of several others that may occur to the resourceful man, will furnish a way of providing for the autumn of one's life.

But, whichever course may be chosen, the important thing (and this is what we wish to impress upon all real and prospective candidates for the admonition) is, that it be negotiated beforehand, so that when age begins to creep on apace, and eyes begin to dim a little and physical force to abate, we may not be taken unawares or compelled to reproach ourselves with a regretful "If I only had had the nerve to strike into some one line ten years ago!"

Time is the essence of this contract with the future.

We repeat, nothing of this sort shall happen to any of our readers, if we can do anything to prevent it. Not only shall we persistently urge upon them to look ahead and make provision against the inevitable, but we shall hold ourselves always in readiness to assist them in every possible way in so doing. These pages ever are open for discussion as well as for promotion of ways and means to that end.

We earnestly invite our readers to come to us, both with inquiries and with reports of their own experiences in the matter.

All service ranks the same with God;
If now, as formerly He trod
Paradise, His presence fills
Our earth, each only as God wills
Can work. God's puppets, best and worst,
Are we—there is no last or first.
—Robert Browning.

CROUP AND ITS TREATMENT

Some years ago a prominent pharmacist reproached the writer with advocating for all phases of all diseases, under all circumstances, treatment by the use of the alkaloids. This experience provides an excellent illustration of the way people jump at conclusions and then take their own assumptions as the truth. Perhaps no better comprehension of my position may exist in the minds of some of the readers of this journal; and to exemplify the error we will give the history of the use of iodized calcium as a remedy for croup.

This remedy, originally known as the brown iodide of lime, was first introduced by a homeopathist, Prof. Beebe; and was prepared by a Boston firm of manufacturing chemists. For a time it enjoyed some vogue but its use had about died out when it was revived by an article published in *The Alkaloidal Clinic*, by Dr. V. E. Lawrence, of Ottawa, Kansas, which, as a matter of historical as well as therapeutic interest, we reproduced in December, 1914. Immediately following the first appearance of this paper we began to receive letters from doctors asking for further information concerning the remedy. These were followed by many reports on its uses, some disappointing but the great majority confirming Doctor Lawrence's high opinion.

Now the brown iodide of lime is not an alkaloid, or a vegetable product at all; but we have a well-grounded confidence in the great American medical profession, and whenever we find the doctors with anything like unanimity finding a use for any remedy we know it is worth investigating. Here is where our own interest in the "brown iodide of lime" began—not because it fitted into the reforms in therapeutics we were advocating, but because it had been found useful.

The earlier reports upon this remedy praised its action in croup. Many make little distinction between catarrhal and membranous croup, especially those whose medical education is largely derived from bedside studies. The young graduate, fresh from college, may tell us that membranous croup has fever, cough and voice suppressed, and growing difficulty of respiration, and that when this increases until the abdomen is retracted during inspiration it is time to intubate or cut. But the clinician asks, how about catarrhal croups with fever and retraction, but not a trace of membrane discoverable? Clinically we find there is no hard and fast line dividing them, but that cases are found that shade off into each other until we are at a loss how to classify them.

The general view at present makes no difference between membranous croup and diphtheria. The Boards of Health wisely demand that all such must be reported as the latter, for it is better to be on the safe side. But the bacteriologist finds cases where the specific organisms of diphtheria can not be demonstrated, and where none of the constitutional symptoms of diphtheria occur. Our own observations lead us to the belief that there is a membranous croup that presents the highest development of the same inflammatory process that occasions the phenomena of catarrhal croup, and that this may or may not subsequently develop into diphtheria.

This view reconciles many apparent discrepancies of observation. Many assert that calx iodata is effective against all varieties of croup, but some few reports deny its value in true croup. If we assume that these are really diphtheritic the difficulty vanishes.

The earlier this remedy is given in croup the more effective it proves. One-third of a grain should be given in a dessertspoonful of hot water, every ten minutes until the tension relaxes, and the child is relieved. Sleep follows quickly, and the terrified parents are jubilant at finding themselves in possession of a remedy that so speedily quells the threatening symptoms. But if there is reason for believing the case diphtheritic, as when it occurs where that disease is prevailing, or as an extension from tonsillar deposits, it is not likely that much if any benefit can be secured from this drug alone, although it is even then wise to use it.

In dealing with commencing respiratory catarrhs of any description calx iodata has proved one of our most effective remedies. The same doses may be employed as in croup. Many a time we have broken up a beginning coryza by prompt and persistent applications of this drug. However, during the last epidemic of influenza we began to give this remedy in doses of 5 and even 10 grains, in hot water, every half to one hour. Never before have we had such excellent results in the treatment of this baffling malady.

But, one may ask, can patients take such huge doses, with so large a content of iodine, without incurring the evils of iodism? Personally we have never succeeded in inducing iodism with calx iodata, although others have assured me that they had witenssed cases. We are inclined to look upon these as instances of that peculiar idiosyncrasy toward iodic preparations one meets occasionally, when minute doses are followed by furious toxic manifestations. Just why iodism does not readily develop with this drug it is not easy to say.

Doctor Waugh has found calx iodata the quickest and most powerful remedy for pyrosis and the pangs of acidity. It also stops fermentation the moment it reaches the stomach—better than soda in any dose. Even the acidity commonly present in rheumatic fever gives way to calx iodata.

In struma, syphilis, and wherever we wish to obtain the resolvent action of iodine as speedily as possible, calx iodata is a good preparation. In fact, its activity is such that we may employ it when hurry is imperative. In such cases, of course, the doses given should be very large.

I suppose every man who has tried calx iodata and found it affording the activities of iodine has asked himself if it is not merely the latter, and if similar effects may not be secured from the tincture, or from Lugol's solution. I know that I made the trial, but it did not work. Many others have told me the same thing. This loose chemic combination between iodine and lime seems to possess properties not obtainable from other iodic preparations or combinations. The lime is much more than a diluent and exercises an active influence in the system. The fumes from lime once used in croup had something more than watery vapor to account for their value.

The most devout old lady will tell you that in the beginning there was God, and He made the world. The deepest scientist says that in the beginning there was force and matter, and that the force operated on the matter and evolved a universe. Just a difference in names, and yet one shouts "You infidel!" while the other sneers "You idiot!"

IT'S A CHEAP KIND OF WAR THAT BLOWS NOBODY ANY GOOD

The Paris correspondent of *The Boston Medical and Surgical Journal* contributes the following:

"A soldier, Boissay by name, entered the ambulance for a fracture of the left leg and wounds of the right. X-ray examination revealed, in the latter, round bodies that were taken for shrapnel bullets, but that were found on extraction to be *three twenty-franc gold pieces*, or Napoleons, as they are familiarly known. Now, the strange part of the tale is that the patient is a poor man, who had not even a bowing acquaintance with such a *grand seigneur* as a Napoleon! The three coins must, therefore, have been blown out of some comrade's pocket into the wounded man's leg!"

This story should be given wide publicity. It might stimulate enlistments.

CONTROLLING CANCER

It has long been our conviction that the only way to fight the constant increase in the prevalence of cancer is, to study the natural course of the disease and ascertain the factors that make for its incidence. The studies made some years ago in Chicago showed that this malady prevailed among our heterogeneous population in direct ratio with their use of meats, especially of those inferior sorts that, unsalable in their natural forms, might be disposed of when disguised in sausages. This, to our mind, is the most important contribution that has yet been made in the fight against this growing peril.

That there are other considerations not without importance, may be gathered from the report of the health-officer of Portsmouth, England, just published. Doctor Fraser there states that in the year 1913 there occurred in that city 230 deaths from cancer. A campaign of education was then instituted, the main argument in which was as to the wisdom of early operation. By circulars and by newspaper articles, the health-officer endeavored to persuade persons attacked by cancer to seek relief as quickly as possible. The statistics for the past year seem to have justified this procedure, for, in the face of an increasing population, the deaths from cancer in 1914 fell to 197 (from 230). A notable triumph!

For twenty years, the mortality from cancer had been rising, from 6.79 per 10,000 in 1893, to 9.16 in 1913; in which latter year the deaths from cancer were only 34 less than those credited even to tuberculosis. A Portsmouth surgeon, Doctor Childe, initiated the movement by the publication of his book, in 1906, on "The Control of the Scourge." The health-office began, in 1913, the monthly publication of articles in the journals, circulars, lectures to midwives, nurses, and social workers, and free microscopic examinations, in suspected cases, for those who were unable to pay for such service.

The fact was observed that cancer-patients presented themselves for treatment when the malady had progressed too far for successful operation. This was not attributed to fear of operation, but to ignorance of the true nature of the disease, since cancer is not a painful affection in its early stages. The realization of this truth was the first step in the education of the public to the point of taking measures for their own safety.

Vastly important as is this matter, in so far as the early treatment of cancer goes, it is far more so as furnishing material for the advocacy of a far more vital reform. Cancer is not the only disease in which early recognition leads to life-saving treatment, nor is the surgeon alone or even principally concerned. How about tuberculosis, nephritis, organic diseases of the heart, liver, lungs, digestive apparatus, nervous system? It is the internist who is principally concerned; and it is that radical departure from medieval methods and adoption of measures suited to the present day, which we have so often advocated, that is demanded, namely, the abandonment of the fee-system and the substitution of the annual compensation for the personal and family medical adviser. The latter becomes the sanitarian, whose duty it is to prevent disease, by recognizing its causes and removing them; who, by his regular life-insurance examinations, detects the first beginnings of the disease and by timely treatment dissipates the gathering dangers. We all admit:

That preventive medicine is the right and proper thing;

That it is best to detect disease at the earliest possible moment, and that it is most successfully treated then;

That the way to do this is, to make periodic examinations of our patients, without waiting for illness to appear;

That the annual-compensation method has innumerable advantages both for the physician and the patient.

Well, since you admit this, why don't you do it?

The enormous influence of spiritual environment, of friendship, of happiness, of beauty, of success, of religion, is greviously, ludicrously underestimated by most physicians, nurses and hospital attendants. There are diseases that cannot be cured without friendship, patients that never will get well unless you can get them to make a success of something, or to conquer their own self-absorption by a self-devotion, losing their life to find it. —Richard C. Cabot.

YOUR OFFICE-EQUIPMENT

The other day I looked in on the "clinic" of one of the large dental-supply firms. This clinic was not, as with us, the presentation of a ghastly array of unusual "cases," with a distinguished surgeon in the foreground, lifting up his blood-stained scalpel and his illustrious countenance for the plaudits of the professional *hoi polloi*. No, in this clinic, I saw no patients at all, and the only dentists in sight were gathered around skilled workmen and technical experts who were explaining the mechanism of the latest dental appliances.

I learned how artificial teeth are made, how they are anchored in the mouth, and how the different alloys are prepared. I was shown the progress achieved in the filling of teeth, the latest improvements in the dental engine, the application of the x-ray to dentistry, the new methods as well as the new instruments employed in treating pyorrhea, improved apparatus for illumination, was instructed in the art of plate-making, and was given more really practical pointers about anesthesia in half an hour than I have picked up from my exchanges during the last six months.

When I had finished with this inspection. I began to understand why American dentistry is the best in the world. And this is the reason: dentists appreciate and utilize the work of their supply-houses; and, as a result, these concerns are enabled to do the dental profession a service of simply incalculable value.

"But dentistry is largely mechanical," you respond?

To be sure, it is that—but so is medicine. Given a good professional groundwork, and you can safely say that that doctor is most likely to succeed who has the best tools and knows how best to use them.

That should be an axiom, requiring no demonstration. Drugs are tools, and should be looked upon as such; and the doctor should demand that they be good. Skill—though not strictly mechanical skill—is required in making them; and this should be appreciated and rewarded by the profession.

Pure mechanics, also, is an indispensable part of the *art* of medicine, and it is becoming more and more indispensable. The time is coming, and soon, when an understanding of the microscope will be an absolute necessity for the man who wants to be thoroughly competent. Also, look at the development of blood-pressure apparatus within recent years; who would think of trying to diagnose cardio-renal disease without this? Consider all the array of *tools* now required in arriving at the diagnosis of even the most ordinary disease.

In therapeutics, mechanics is becoming even more important. Just think of the different things the general practitioner can use to fit up his office for better work, as, for example: examining tables and chairs, hot-air apparatus, electric-light baths, x-ray machines, electrotherapeutic outfits, lenses for visual tests, apparatus for the examination of blood and of urine and other secretions, specula, pessaries, anesthesia-apparatus, transfusion-apparatus, intubation sets, and surgical instruments of all kinds; not forgetting a sterilizing-outfit, splints for the treatment of fractures—besides many, many other things. How many of these do *you* own? How many of them do you understand?

Medicine not mechanical, you say? It is, brother, and it is becoming more and more so every day that we live. And I will add that those of you who grasp this fact earliest, other things being equal, will be the quickest to succeed professionally.

Now, here is heresy for you: If you feel that you can not afford both, it would pay you far better to spend your money in making an intimate acquaintance with the tool-makers of your profession than in attending the annual medical-society meetings. And I am going to make that term "tool" broad enough so as to include everything a doctor possibly can utilize in diagnosing or treating disease.

Knowledge is essential to success, but skill is equally essential—and what is skill without tools? What would you think of a carpenter who took the job of building your house with only a hand-saw and a hammer? You wouldn't think much of him, even if he could discourse to you in the most approved fashion about the science of house-building, would you? Yet, how many doctors there are whose tool-kits—meaning their offices—are as bare and empty and as poorly equipped as is that of a dark-skinned craftsman in the heart of blackest Africa!

Honestly, I do wonder how some doctors can even *hope* to succeed.

The very best investment any physician can make is in his professional equipment. It will pay far heavier dividends than money put into stocks, bonds, mortgages or real estate—better even than the war-stocks! It's a poor kind of doctor who cannot make 1000 percent on the money invested in office-apparatus, *provided he learns how to use them, and does put them to use.*

Compare your office-equipment with that of your dental brother across the hall. Does the comparison make you proud? He, the dentist, has every tool he can find use for—and he knows how to use every one of them. You have a few drugs, a urine-test set, a few instruments—perhaps an old static machine that you never understood and is useless today. The dentist keeps his office clean and attractive; he has to, or, he would lose his business. You have a dirty, rickety roll-top desk that is covered with dust and littered and piled high with unread journals. There is no rug on the waiting-room floor. And, you wonder why your patients drift away!

Why not turn over a new leaf? Why not begin to study professional equipment, with a view to enlarging your field and increasing your practice? I tell you, it can be done, and the field will be found as vitally interesting as anything in medicine.

What can we do, through CLINICAL MEDICINE, to help you in this matter? Please tell us, those of you who are searching for help. Perhaps those of you who already have entered the better way will "come across" with help. We want a good article, or several

such articles, on "The General Practitioner's Equipment." Who will write it or them?

So has it been from the beginning; so will it be to the end. Generation after generation takes to itself the Form of a Body, and forth-issuing from Cimmerian Night, on heaven's mission appears. What Force and Fire is in each, he expends; one grinding in the mill of Industry; one, hunter-like, climbing the giddy Alpine heights of Science; one madly dashed in pieces on the rocks of Strife, in war with his fellows; and then the Heaven-sent is recalled, his earthly Vesture falls away, and soon even to sense becomes a Vanished Shadow. - Carlyle.

THE DOCTOR'S INFLUENCE

Mr. Deweese, the Advertising Manager of "Shredded Wheat," in a recent conversation with the advertising manager of this journal, made the statement that he "would not give ten cents for the influence of all the doctors in the country" in the endorsement and recommendation of the class of product which his company manufactured.

It is hard to believe that any experienced and presumably far-sighted business man, in possession of his senses, could deliberately give utterance to such an astounding expression of opinion. It simply goes to show that the keenest men frequently have a blind side to their mental vision; for Mr. Deweese has but to bestow the most cursory glance over the terrain which he thus contemptuously dismisses from his consideration to see that the facts are overwhelmingly in contradiction of his hastily expressed judgment. If there is one thing in the realm of practical sociology which has established itself, firmly and conspicuously, in the last twenty years, it is the enormous influence exercised by medical science and the medical man upon the thought and conduct of civilized communities.

Indeed, it is scarcely too much to say that the influence of medical science, exercised and administered through the medical profession, has, within the period mentioned, completely revolutionized public sentiment and public conduct. And it certainly is no exaggeration to assert that no one class of men has wielded, and still wields, the degree of influence exerted by the doctor. This ramifies into every phase of individual life, and reaches every department of organized activity. So potent and wide-spread is it, in fact, that some question whether it has not become *too* obtrusive. But when we inquire carefully and without prejudice into the causes of its growth, we find that it derives its authoritative weight from the natural and wholesome sources which beget genuine authority.

To begin with, the general public—even the better-informed part of the public—is profoundly ignorant of hygiene and sanitation, with all that pertain thereto. In the last twenty-five years, however, these topics have become of first importance, and under the influence of modern enlightenment, the public has come to the point spoken of in the famous Oriental proverb, where they "know not, and know that they know not."

The doctor stands at the complementary pole. He "knows, and knows that he knows." Moreover, the public knows that he knows, and looks to him for information and instruction. It has faith in his knowledge—a faith that has been justified by years of vindication, as well as by the constantly increasing thoroughness of the doctor's training.

In the second place, this very condition of helpless ignorance on the part of the public in such matters puts it at the mercy of pretenders, fakers, and interested schemers with commercial axes to grind, and it seeks a guide who not only *knows* the truth, but who will proclaim it in fearless, impartial fashion. Such a guide he finds in the doctor. Sneer as you will—be as cynical as you please—the fact remains that, with all his faults (and nobody pretends that he is without his faults), the doctor, as a rule, is honest. He is concerned only with the welfare of his patients and the health of the community. There is, in fact, something innate in the relations which the physician assumes to his clientele, and toward the public at large, that imposes on him a sense of *noblesse oblige*, to which, to his credit be it said, he has splendidly lived up. The public knows this. It has faith, not only in the doctor's knowledge, but in his probity and sincerity—a faith, again, which years of experience have justified and entrenched.

We repeat, there is no one man in all of our organized civilization who exercises the degree and extent of influence over the public mode and materials of living, at the present day, that the doctor does; whose lightest word is law in matters of health and hygiene; whose least suggestion in eating, drinking, sleeping, and what-not assumes so much the force of an edict; and whose endorsement or disapproval of a product or a procedure makes it or damns it in the eyes of those to whom he holds the position of adviser. Let the doctor go out of his way to specify a particular product, and the client will walk all over the city, if need be, to get that particular thing. Let the doctor condemn some special article, and, though the negative process may be a

little slower than the positive, it is none the less sure—that brand will ultimately disappear from the homes in which the doctor has his advisory capacity.

There are, we believe, some 125,000 doctors in the United States. The exact number, however, or even the approximate number, is unimportant. The significant thing is that the medical profession, whatever its numerical strength, is so distributed as to cover (and in many instances overlap) the entire population. This means that, of all the millions of people to whom the manufacturers of this or that product look as potential customers, *there is practically not one that is not directly within the purview of some doctor's influence.*

In view of these indisputable facts, we say again, we cannot understand how any intelligent business-man can repudiate the influence of the doctor in the promotion or otherwise of any product which bases its claims to patronage upon an appeal to principles of health or hygiene. To which argument, *a priori*, may be added the argument *de facto*, that many and many an article of food and drink and apparel *has* been made and damned by this very influence which Mr. Deweese professes to despise. It is a very real influence and a very legitimate one, not, of course, to be used in special interests or as a weapon of blackmail, for just as soon as the doctor should begin to use it in this way his influence would lose the very force which it derives from its sincerity and honesty; but it is one to be wielded fearlessly and impartially for the benefit of humanity and the maintenance of high standards of living.

Wrapped in his sad-colored cloak, the Day, like a Puritan, standeth,
Stern in the joyless fields, rebuking the lingering color—
Dying hectic of leaves and the chilly blue of the asters—
Hearing, perchance, the croak of a crow in the desolate tree-top.

—Bayard Taylor.

BIOLOGIC MEDICINE

"Sooner or later you will be compelled to consider the claims of biologic medicine."

That may have been true when first written; it is untrue now. Today, there is no "or later" to the matter; it is now, just now, that you must consider biologic medicine, if you mean to continue on the list of practicing physicians.

This truth was borne strongly upon us in reading the records of a recent discussion anent the treatment of diphtheria. There were three parties to it, one advocating maximum; the second, medium; the third, minimum doses of antitoxin. That was absolutely all. We looked in vain for those who would speak of the value of local cleansing and antiseptics, of checking the deadly nasal hemorrhage, of constitutional support, of the hygienic conditions of the premises of nutrition; but not a solitary word was spoken, except, and only, concerning antitoxin.

Yet, still facts are facts, that bad hygienic conditions of and about a house tend to the production of diphtheria; and that thorough cleansing away of the secretions from the nostrils and other affected parts, and stopping the absorption of poisonous material from the dead and dying tissues and decomposing membranes works an improvement in the condition of the patient as sudden and decided as ever followed an effective dose of antitoxin.

Early in the preceding century, a Doctor Greenleaf proffered a formula, consisting of potassium chlorate and hydrochloric acid, to which were added, as the chlorine evolved, water and tincture of iron. This seemed to work wonders, except in these malignant forms where all medication failed. But, in these terrible cases, an improvement that seemed, and was, marvelous followed when the decomposing secretions were removed and local antiseptics applied to the affected mucous tracts. Still some of them died. Then the next step was, to search out the sources of malignancy in the defective hygienic conditions of the residence and its surroundings and to remedy these. The sudden change from malignancy to ordinary and controllable forms was one of the lessons so deeply impressed upon our consciousness that many years of subsequent experiences and the development of newer methods have not weakened. The value of good hygienic conditions is as great and as true as it ever was.

Every practician has had similar experiences. Trying out carefully every newly devised method that offered itself, seeking the means of controlling one phase after another of the dangerous malady, we surely advanced in our means of coping with diphtheria. Suddenly antitoxin was sprung upon us—and, as its tremendous powers for good were developed, the dosage and administration perfected, we dropped everything we had previously known and used and devoted ourselves with enthusiasm to this marvelous discovery of Behring. Yet (enthusiasm is good, but the editor must be careful and keep

cool), tell us whether there be not an occasional life lost with the use of antitoxin, that might have been saved by the application of some of this old, now forgotten, lore? Are there cases where antitoxin comes in too late? Do no children nowadays have nasal hemorrhage that kills, where solutions of chromic acid would have stopped the bleeding as of yore? Is the breathing of pure air no longer necessary? Does a cesspool whose wall leaks fecal matter into the cellar no longer afford a peril of malignancy?

If antitoxin renders hygiene unnecessary, it is, indeed, a miracle.

Very well; if this ancient practice be, indeed, obsolete, let us suggest that in the cause of prophylaxis the connection between bad sanitary conditions and the development of malignancy be not forgotten. Even here, however, the antitoxin-advocate is ready with his immunizing doses—we may eat dirt, drink dirt, breathe dirt, live in and on dirt, if we only squirt an occasional dose into our beings.

Perhaps the strangest thing about this antitoxin matter is, that it has not as yet developed the antiantitoxinist, with the very decided and peculiar traits characterizing the antivaccinationist. Why is this? The latter personage generally is ready to give antitoxin a sideswipe as he passes by, but he has not shown toward it the venom, the malignancy, the energy, the active and devoted antagonism that he manifests toward variola vaccine. The word anaphylaxis never drops from his lips. He has not discovered that the puncture of the antitoxin-syringe leaves the mark of the beast mentioned in Revelation. He has not conjured out of statistics the astounding facts that antitoxin is the true cause of diphtheria, besides transmitting everything that can ail mankind, from corns to mothers-in-law. He has not yet so much as suspected the true source of every disease and accident that may affect a person once treated for diphtheria to be the serum used. He has not traced the connection between the sales of antitoxin and the number of diphtheria cases, and paraded this triumphantly as proving the former to have been the cause of the latter. In fact, he has not availed himself of this opportunity to show himself what Artemas Ward termed his pet kangaroo, an "amoosin' little cuss."

For a century vaccine stood unsupported. Then it was joined by antitoxin. Many relatives have contended for a seat by these mighties, and the typhoid immunizing serum, for one, has proved its right. With the antitetanus antitoxin, it has been more difficult. While many persons subjected to wounds that might have developed this dreadful malady have taken the antitoxin and have not developed the disease, this does not prove conclusively that the remedy prevented it; for, but a very small portion of persons thus wounded ever contract tetanus.

It is a significant fact, though, that those who have had exceptional opportunities for studying wounds and their effects, including tetanus, are most urgent in the advocacy of this antitoxin. We refer here especially to men such as Dr. W. C. Iuen, for many years surgeon to the street-railways of Kansas City. In this latter capacity, he has treated many cases of injury, and his practice now is, to inject immunizing doses of tetanus antitoxin in every case where this malady could possibly develop. To our objections, he replied: "If you have ever had one solitary case of tetanus to treat, you will not neglect this preventive. One is enough."

We agree unreservedly—one case of tetanus to treat and to watch is an ample experience for this writer.

As to the other serums, vaccines, antitoxins, bacterins, opsonins, *et id omne genus*—they all fall into the same category—they are perhaps not fully established; still, the evidence in their favor is so strong that we have no right to forbid our patients the possible and probable benefits from their application. We should assist in the development of this most promising department of therapeutics, by utilizing these whenever we see there is a reasonable chance of their proving of value. We need not forget or neglect the valuable means and methods gathered in our past professional life, but we must not fail to utilize to the full limit the newer methods, when they are so full of promise as these.

Especially is this true for the bacterins for pneumonia. We can ill afford to lose any possibilities toward the successful management of this malady. The thyroid extracts also are worthy of the most thorough and careful applications.

But, what are all your uses worth, if you do not report them for the profession at large? Successes, failures, limitations, and extensions, all should go as contributions to that composite picture, which, coming from many cases handled by many doctors, under many different conditions, affords a curiously varied and modified, yet unified, picture that is nearer the truth than any one of its components.

Leading Articles

The Etiology and Treatment of Pneumonia

A Review of Some Important Recent Work

By J. Favil Biehn, M. D., Chicago, Illinois

Director of Clinical and Biologic Laboratories, The Abbott Laboratories

PNEUMONIA was one of the first definitely recognized infectious diseases. It was accurately described by Hippocrates, who suggested bleeding, that is, venesection, as the ideal treatment. Until within the past ten or twelve years, it has been second to tuberculosis as the chief cause of death. Since then, however, the number of deaths from pneumonia has gradually increased over the number of deaths from tuberculosis.

In the year 1914, pneumonia caused approximately 12 percent of all deaths reported in Chicago. The late Dr. Frank W. Reilly, assistant commissioner of health of Chicago, very aptly called it the "captain of the men of death." While it is of more frequent occurrence in cities, especially in crowded localities, it is fairly common even in the sparsely settled rural districts. Approximately 70 percent of those attacked are males. No age is immune. Consequently, it is one of the infectious diseases of greatest interest to the physician, if not most important of all.

Within the past year, some very notable facts have been elicited as the result of research-work concerning this disease; so that now we appear to be on the threshold of a treatment that will be definitely valuable; in fact, practically specific.

It was formerly considered that pneumonia is not highly contagious, but that, inasmuch as 60 percent of all persons harbor pneumococci in their respiratory mucous membranes, some secondary factor—for instance, exposure or a combination of exposure and the presence of some toxic substance (alcohol, and the like) especially in those suffering from renal disease, resulted in an attack of pneumonia; the exposure and other coincident factors reducing the vitality to such an extent as to enable the pneumococci successfully to invade the blood stream or the alveoli of the lung.

However, recent researches by Doctor Schottmueller (1903) and Professor Neufeld in Germany, Lister in South Africa, Dochez and Avery in New York, Walker in Boston, and Lewis in Philadelphia have demonstrated that pneumonia is an autogenous infection in not more than 20 or 30 percent of all cases. These 20 to 30 percent of cases are brought on by a heterogeneous group of pneumococci, the socalled "group IV." The several species bear practically no relation to each other, so far as their immunological reactions are concerned; and but very few deaths occur from attacks caused by this fourth group.

The other 70 to 80 percent of cases of pneumonia have been proven to be the result of direct contact either with one actively sick or a carrier, and are caused by three well-defined groups of pneumococci; type I and type II being recognizable and differentiable by their immunological reactions, and type III consisting of the pneumococcus mucosus.

It has been definitely proved that the cases produced by these three groups are the ones in which the greatest number of deaths occur. It would seem also that these three groups of pneumococci are definitely parasitic in their nature, in contradistinction to those of group IV, which are more or less saprophytic and capable of producing pneumonia only under special circumstances; nor do they tend to produce the disease in a second individual, whereas the parasitic pneumococci of groups I, II, and III constantly tend to produce pneumonia in any susceptible individual who may come in contact with someone either suffering from the disease or convalescent, or with a healthy carrier who has come in contact with such a person.

These three groups of pneumococci are definitely parasitic in their nature. They are never found in the throat, except in one suffering from the disease or one who has

been in direct contact with such person. They do not persist in the throat after the patient's recovery from the disease (so far as it is at present known) for more than ninety days—sometimes not longer than ten. In other words, when one recovers from the disease that has been produced by either of the members of the first three groups, these pneumococci tend to disappear rapidly from the throat and are replaced by some of the saprophytic pneumococci belonging to group IV.

The Pulmonary Alveoli Must Be Attacked Directly

The experimental production of pneumonia in animals has brought forth a number of interesting points, especially the work done by Kline and Winternitz, who have found that, in order to produce pneumonia, it is necessary in a normal rabbit to introduce the pneumococci into the alveoli of the lung. Massive inoculations into the trachea alone do not produce characteristic or marked changes in the lung-tissue. It is evident from this that there is some mechanism in the upper air-passages tending to protect the lungs against infection. This is to a certain extent confirmed by the fact that pneumonia can be produced by tracheal inoculation if both vagi are severed in practically every instance; or it may even occur spontaneously under such conditions. If but one of the vagi is severed, only a portion of the otherwise normal animals succumb to the disease. Secondary factors, however, such as exposure to cold, irritating gases, and other toxic elements oftentimes are sufficient to aid in the production of the disease, by overcoming this protective mechanism.

Antipneumococcus-Serum

A highly efficacious antipneumococcus-serum can be produced both for type I and type II of pneumococci. This serum can also be concentrated; that is to say, a globulin-solution can be prepared in which the antibodies from a large amount of the hyperimmunized serum, as removed from the animal, are represented, in solution, in a small volume. It would seem, therefore, that it were clinically possible to combat successfully pneumonia resulting from type I or type II pneumococci, by injecting large amounts of the corresponding immune-serum. Animal-experiments have demonstrated that unquestionably this is possible, at least during the earlier stages of the disease.

Type III—the pneumococcus mucosus—is a very peculiar organism, in that it possesses an exceptionally large capsule and ordinarily is highly virulent. No efficient serum has, as yet, been produced that is capable of passively immunizing an animal against infection by this organism. However, active immunization can readily be effected against the highly virulent pneumococcus mucosus, as well as against group I and also group II, in fact, it is possible to produce a higher grade of immunity against these three virulent groups than can be secured against any one of the members of group IV, the heterogeneous group of saprophytic pneumococci.

Mode of Action of the Serum

Some interesting observations as to the mechanism of recovery as a result of serum-treatment in animals have recently been reported by Kline and Winternitz, especially regarding the part the leukocytes play in the immunity reaction. These experimenters have found that the injection of a fatal dose of pneumococci produces a steadily increasing number of pneumococci in the blood, which reaches its maximum at the time of the death of the animal, whereas at the same time there takes place a marked and steady fall in the number of the leukocytes. When they injected the animal with a pneumococcus-serum, that is, passively immunized it, and then injected a lethal dose of the corresponding pneumococci, they found, so far as they were able to determine, that the pneumococci disappeared from the peripheral blood in from one-half to three hours. At the same time, a decided leukocytosis is produced following the injection of these pneumococci. This leukocytosis reaches its minimum twelve to fifteen hours after the injection of the organisms, which is some hours after the pneumococci have disappeared.

They further found that, when, after actively immunizing rabbits by means of a pneumococcus-bacterin, they inject these rabbits with a fatal dose of pneumococci, the pneumococci also disappear rapidly, while a leukocytosis is also produced; the result being the same, whether the animals be actively or passively immunized. In each case, the animals that have been efficiently immunized recover; the pneumococci rapidly disappear from the peripheral blood stream and do not reappear.

However, if the rabbits are rendered aplastic, that is, their leukocytes are reduced to 1000 or less per mm. by an injection of benzol, an entirely different result is obtained. In such aplastic animals, passively immunized by the serum and then injected with a fatal

dose of pneumococci, the authors found as follows:

The pneumococci disappear from the peripheral blood stream in from two to four hours—but, the pneumococci again reappear in the blood very soon afterward, and increase in numbers until the animal dies, which eventually happens. No increase in the number of leukocytes takes place.

In aplastic animals that have been actively immunized and then injected with pneumococci, the authors found that the pneumococci disappear, and again no leukocytosis occurs; but the animals recover. Evidently, in the actively immunized animals, some other mechanism has entered, one that prevents the secondary increase of pneumococci and the death of the animal.

The authors conclude that the result of the intravenous injection of pneumococci in immunized rabbits can be divided into two stages—immediate and ultimate. The immediate reaction is not decisive of the ultimate result.

The Three Factors Conditioning Immunity

Immunity seems to depend upon three factors: Immune bodies, white blood-cells, and a third factor, dependent for its existence upon the white blood-cells. This third factor may be removed by reinjecting the animal with what primarily would constitute a fatal dose of pneumococci after it has recovered from this fatal dose; the animal having first been rendered aplastic by means of benzol injections, then having received a fatal dose of pneumococci from which it recovers; but it does not recover from a *second* fatal injection.

Immune bodies cause an immediate disappearance of the pneumococci from the circulation.

The third factor causes the permanent absence of the organisms, this resulting in the recovery of the animal.

The white blood-cells seem to be essential for the production of this third factor.

In actively immunizing animals by injecting antigens (in this case, the injection of the pneumococcus-bacterin), a considerable leukocytosis is always produced. We should expect, therefore, that such an injection, since it increases the leukocytes, would also augment this third essential factor; and we have definite proof that it also stimulates the production of immune-bodies.

Aside from the attempts of specific medication in pneumonia, by means of sera and bacterins, there has been promise of success along chemotherapeutic lines.

Chemotherapy of Pneumonia: Optochin

Morgenroth, who had some experience in association with Ehrlich and worked along collateral lines, having knowledge of the somewhat bactericidal action of quinine upon pneumococci, experimented with a number of quinine derivatives, and he finally found that ethylhydrocupreine (optochin base) exerts a definite bactericidal and antitoxic effect upon pneumococci.

This action seems to be a highly selective one; for, it is without bactericidal effect upon other microorganisms, with the possible exception of a very slight one upon streptococci—but only very slightly so as compared with what it has upon pneumococci. It is germicidal for pneumococci in the tube, in the proportion of 1 : 100,000,000. Ethylhydrocupreine, further, is an efficient local anesthetic. Originally it was employed by Kaufmann in the treatment of ophthalmic pneumococcus-infections.

By means of this chemical, we are able, in most instances, to protect mice against many thousand times the fatal dose of pneumococci, irrespective to what group these may belong; and, if introduced shortly after the inoculation of a virulent pneumococcus, many of these animals are saved. However, this preparation is somewhat toxic in large doses, and has caused temporary blindness in a number of instances. The bactericidal effect of the serum, after the administration of ethylhydrocupreine, is manifest in one hour, but is lost three hours later, so that its action is transitory.

While this is the only drug that has been proven by laboratory- and animal-experiments to be directly antagonistic to pneumococci, the reports of its clinical application in the treatment of pneumonia until recently were anything but favorable. However, Moore, of the Rockefeller Institute, in a recent paper has shown that a single small dose of ethylhydrocupreine, which in itself has practically no protective effect against experimental pneumococcal infection in mice, is capable of increasing the threshold value of the homologous type pneumococcus-serum at least fifty times; and this effect is proportionately many times greater than the simple summation of the protective effects of these two substances combined. The effect, however, is obtainable only when the homologous serum of that particular group of pneumococcus is used.

If we have laboratory facilities at hand whereby we are enabled to determine exactly what type of pneumococcus is causing the infection, the matter, of course, will be greatly simplified. If we have an infection caused by type I or type II pneumococcus, the ideal treatment would be to administer the homologous serum together with a small dose of ethylhydrocupreine. If, however, the infection is one with type III—the pneumococcus mucosus—it would be necessary to inject a stock bacterin of this organism, since at present it is impossible to produce an efficient serum. The type of the disease caused by this pneumococcus mucosus will, necessarily, give us the largest number of fatalities, owing to the high degree of its virulence and the fact that pneumonia usually is of brief duration; the patients frequently succumbing before active immunization can be accomplished as a result of bacterination.

In infections caused by one of the organisms of the heterogeneous group, type IV, specific treatment necessarily must be limited to the use of an autogenous bacterin; for, it is impossible to produce a serum in sufficient time, unless the disease should become chronic—a rare occurrence in infections produced by this group. A stock bacterin probably would be of questionable value, owing to the heterogeneous character of these strains. Still, in this group, we have the lowest percentage of deaths; in fact, practically no deaths occur.

Until such time as an accurate diagnosis of the group-type of infection in pneumonia can be made, we are justified in instituting the following combination of treatment: Sera type I and type II with ethylhydrocupreine and, in addition, a stock pneumococcus-mucosus bacterin. This would include specific treatment for 80 percent of all patients; the other 20 percent—those cases owing to type-IV infection, the heterogeneous group—would require the preparation of an autogenous bacterin. But, as this can be made in from eighteen to twenty-four hours, while, moreover, these cases only very rarely prove fatal, there is ample time for such a procedure.

If in the future clinical tests definitely demonstrate the value of the combined use of ethylhydrocupreine and the homologous anti-pneumococcus-serum, it will be necessary for biologic manufacturers to produce anti-pneumococcus-serum, type I and II pneumococci. It will also be necessary for them to prepare a stock pneumococcus-mucosus bacterin. At present these sera do not seem to be commercially available.

In view of these recent researches, the prevention of pneumonia must take into consideration more careful isolation, or quarantine, and the discovery of carriers.

Prophylactic immunization is also possible by the use of type I, type II, and type III pneumococci. Repeated injections of a bacterin containing these three types would unquestionably immunize the patient against the fatal types of pneumonia, and the prophylactic use of such a bacterin is of unquestionably greater value and will produce much greater results than the use of typhoid-prophylactic against typhoid fever, since we can produce an equally efficient immunity, while the incidence of the disease is several hundredfold that of typhoid fever.

Functional Disorders of the Liver

Suggestions as to Their Treatment

By Beverley Robinson, M. D., New York City

IN THE old textbooks on the practice of medicine, the subject embraced in the title was considered at some length and with due appreciation of its importance. In more than one treatise, today, of latest publication and widely used by students, these disturbances are slurred over or not mentioned at all. To me, this is a great mistake, and simply for the reason that very frequently we are called upon to treat these troubles, and, if we do so effectively, we add to our reputation and are of great service to our patients, not only in curing the symptoms from which they suffer, but also in preventing the development of diseases such as gallstones or hemorrhoids, which inevitably will follow if acute bilious attacks are frequently repeated.

Anatomically, an acute liver derangement means congestion of this organ. So far as local signs go, there may be a little enlargement and tenderness shown by percussion. In addition, there may be a sensation of malaise, a weight, with discomfort, in the

hepatic region. To palpation, the liver may be somewhat harder than normal, due, no doubt, to the excess of blood it contains.

As to the subjective symptoms, they are: bad taste in the mouth, foul breath, coated tongue, inappetence or nausea, headache, unwillingness to work or play, constipation, dyspeptic symptoms—such as flatus, weight and distress in the region of the stomach after eating. Often there is frequent expectoration of mucus, thick and slimy. The pharynx is red and relaxed and shows the follicles prominently interspersed with small varicose, tortuous veins. Of course, these latter signs are more marked with every renewed attack—just as the liver grows harder and less yielding to moderate pressure.

In some instances, while acute attacks occur from time to time, the patient also, during the intervals, shows signs of disorder of the liver. Frequently he is a person of spare habit, his skin is dry and has an earthy hue, which might be confounded, by a careless or inexperienced observer, with jaundice. This must be guarded against, for, the sclerotics are not yellow and the stools, instead of being light in hue and pasty, are likely to be overcharged with bile and be of a dark-brown color. The urine often is loaded with urates, but does not show the coloring matter of bile. A constipated habit is the rule and headache and lassitude are not uncommon. Men of this type, even when young, do not bear mental strain well and get easily upset in body, if they are at all irregular as to meals or sleep. Tobacco and alcoholic drinks are inimical to them and must be used very sparingly. When this condition has persisted for several years, these patients are liable to suffer from hemorrhoids, and bleeding from them may recur periodically, and sometimes to such a degree even that it causes anxiety unless an operation be performed to relieve or cure the trouble.

The Chemical Tests Unreliable

Within recent years, different chemical tests have been employed to decide when congestion of the liver is chronic and to what extent organic changes have taken place. With few or no exceptions, these tests are uncertain, difficult to execute, and, in my judgment, of little practical value. It is well, therefore, to adjudicate some seeming advances, because in this way much trouble is saved to the searcher for truth who also is kept very busy making a livelihood.

In many cases of liver impairment, the flow of bile is in excess; in other, fewer, instances, it is deficient in quantity. The instances of the first kind are met with among the corpulent, the heavy eaters, the lazy and self-indulgent. The others we are likely to encounter among the free users of alcohol. At times, the quantity of bile seemingly is not increased, but its quality undoubtedly is changed for the worse. The secondary ill-effect of this vitiation of the bile is manifested in the morbid symptoms produced, which notably are those I already have mentioned in one form or another.

One kind of functional disorder occasionally is met with which appears to be due to primary anemia of the liver rather than to congestion. It is found, usually, among young women who are pale, anemic, and poorly nourished, and frequently is only a part of the general condition, and, I believe, caused by it.

Again, it would seem as if the liver itself were primarily affected, and was the essential cause of the lowered general condition. These cases are rare, relatively, and difficult to diagnose. When, however the ordinary tonics of iron and quinine have failed to cause improvement, we should think of the possibility alluded to; and here a mild laxative treatment will produce better results at first, while later a mineral acid, with a simple bitter, may prove to be a happy selection and to promote rapid improvement in the patient's condition.

A neglected or unwise treatment in the beginning of liver disorder may lead to chronic congestion, and this, again, to organic changes of structure, which ultimately may become one of marked cirrhosis.

Catarrhal jaundice does occasionally occur where the bile-ducts have become thoroughly clogged, by reason of the mucous thickening, acute or chronic, which proceeds directly from the liver, or, indeed, is the outcome of some previous stomachal upset.

In an analogous way, many of these patients are sufferers from piles, either blind and external or else internal, these hemorrhoids giving annoying weight to the rectum or causing not a little bleeding, periodically.

To treat these conditions successfully, may be simple and rapid; and, again, it is long-continued treatment alone that will bring success, provided it is pursued intelligently.

Treatment of Bilious Attacks

As a rule, in an acute bilious attack, I have had best results from prescribing 3 grains of blue pill at bedtime, followed by a laxative saline in the morning. In some instances, in which blue mass purges too

much, it is preferable to give granular effervescent phosphate of sodium, in teaspoon- or dessertspoonful doses in half a tumbler of water, three or four times in twenty-four hours. Celestine Vichy water, drunk freely, is the best mineral water to advise.

There is little doubt that the sodium salts tend to liquefy the bile and thus, when it is too concentrated, to promote a cure. To some observers, the use of a mercurial of any kind is a mistake at the beginning of an acute attack of liver disorder, as it urges the affected organ too much, while a little later it may be very desirable. This is not my experience. After a day or two, especially if there is constipation, podophyllin in small, repeated doses in tablet form should be given. I have found podophyllin tablets of 1-20 grain, two to be taken after each meal, very useful in bringing the liver back to a normal condition. The podophyllin may, also, be combined with the extracts of cascara and belladonna; in this manner, we can regulate the bowels in a very satisfactory way. The alkaline treatment with phosphate of sodium and Vichy water should not be persisted in for too long a time, because of its tendency to thin the blood. In its place, a mineral acid, that is, the hydrochloric or the nitromuriatic, should be given, either with or without a bitter infusion—that of gentian being the best.

In some cases of anemic girls, and after the liver and bowels are again doing their work normally, a mild preparation of iron should be tried for a while; if the effects are good, it may be persisted in for several weeks, except during the menstrual periods. If, however, the effects seem prejudicial, the chalybiate should be abandoned.

If these cases of functional liver disorder are obstinate, and especially when the patient is no longer very young, spa-treatment at Aix-les-Bains, Carlsbad or Homburg, abroad, or at Saratoga in this country often is of great service in helping to prevent hemorrhoidal outbreaks and also in warding off gallstones. This is especially true in instances where the liver disorder is, to a certain degree at least, dependent upon an underlying gouty dyscrasia. Not infrequently, at times, some other manifestation of gout may be evident and the liver be quiescent. Then, again, we may have the symptoms appearing in such a way that it is difficult to know what to assign to gout and what may be wholly unconnected with that condition; being, perhaps, merely owing to some accidental complication of the liver and brought on by intemperance in eating or drinking, overwork, anxiety, exposure—what not.

As to the Diet in Biliousness

The diet in all these cases should be carefully regulated, but not according to some cut-and-dried method, such as may be good and sensible in general, but, when applied in individual cases, be subject to numerous exceptions. Here, again the brains, good judgment, and large experience of the practitioner are felt keenly and with great advantage to the patient.

It is impossible to say what food or preparation thereof will suit in a given case. The best, most practical way is, to have the patient write down accurately, for a while, what he eats and drinks, and then by degrees to eliminate or modify what seems injurious or doubtful. Everybody, almost, who is intelligent finds out sooner or later what food or drink suits him, and he should be told to continue that regimen, so far as may be.

In the beginning of an attack of biliary disorder, it is clearly foolish to insist upon one's taking food of a certain kind when the taste, inclination, and stomach rebel almost as a matter of course. These people do not then want, nor need, meat, rich dishes and sauces, sweets, and delicacies, nor much food of any kind. Fat and all greasy food repel immediately. Alcohol and tobacco to them are repugnant or become so after a very moderate indulgence.

Let such a patient suffering from biliousness take a cup of hot freshly and well-made tea, not too strong but containing a dash of lemon, and he will be thankful. Let him have a little milk toast, hot and slightly salted, and perhaps spread with a very little good butter, and your patient will be grateful for that also. A soft-boiled fresh egg, a little well-cooked rice with salt and a very good butter, some good chicken-soup, calf's-foot jelly slightly flavored with lemon-peel, a good baked apple, a roast potato, perhaps the wing of a chicken, roasted or broiled, or a sliver of well-broiled bacon, some stewed fruit, an orange, a few hothouse or Malaga grapes, may, one or the other, or two or more following each other, make a quite sufficient meal for a day or two.

To many, milk and Vichy water, half and half, may be about all they want and can take. To a few persons, as we know, milk in any form is absolutely distasteful. For these, and whenever I want the best and most assimilable food and stimulant to be given, I

advise, strongly, panopepton, in frequent small doses (from a teaspoon- to a dessert-spoonful), taken cold with a little cracked ice or carbonated water. A little brut champagne, icy cold, and a chassé café of the best old brandy or kirschwasser may occasionally be permissible, but very rarely are required. With some patients, nothing equals in its restorative effects a small quantity of good after-dinner coffee, with or without a little brandy and sugar added.

The whole problem resolves itself into the question of taste and cooking and personality —and no doctor who really knows will leave these factors out of consideration. It is here where textbooks sin, even the best of them. The authors lay down rules, and then enumerate a lot of exceptions; so it is that the practitioner is left floundering around for not a few years, until at last he has found out for himself that he must try to discover what suits the patient, and what not. And here again he is immensely helped when he knows, by having treated him on more than one occasion, the sufferer who solicits his professional assistance.

After the acute attack is over and we merely have to do with the slight disablement that has followed it, we should, little by little, return to ordinary wholesome diet.

Permit at first, a little broiled fish and one (at most two) well-selected and well-cooked vegetable, so far as possible in season or one that best bears transportation and keeping. In place of fish, we may allow broiled or roasted chicken or broiled mutton chop; and, still later, a small piece of broiled beefsteak or roast beef—both rare or underdone. After dinner, a little stewed fruit or saltines, with a bit of Camambert or Swiss cheese. A small quantity of claret wine and water, whisky and water or a wineglass of sherry is allowable, and often even useful at lunch or dinner. A good mineral water, such as White Rock or Appolinaris, is often desirable. Such a dietary should be followed for some time. Further, rich sauces, many various dishes, sweets, alcoholics in larger amounts are to be strictly prohibited, as a rule.

Occasionally a little excess or a more varied dinner, in pleasant company, will prove to be healthful rather than the reverse and is not heard from by any warring or distressing symptoms. But, free indulgence in food by brain-workers or city-dwellers is apt very soon to result in an upset of the digestion, more or less disabling for a time. Soon, if the attacks be frequently repeated, chronic congestion of the liver results, and this can be cured only by extreme care in regard to food—continued during long periods.

Exercise and outdoor life, so far as may be, must always be carefully considered. It is well, every morning before the bath, to exercise somewhat with light dumbbells; and this may be supplemented by the masseur-exerciser, which enables one to rub or massage the back of the neck between and over the shoulders and back. This instrument is simply invaluable. Furthermore, a walk downtown before business or uptown before dinner is very important. For men past middle life and in the city, especially in the late fall and winter, the game of pool gives exercise and distraction and should be recommended. This, certainly, is far preferable to sitting around the card-table and inhaling tobacco smoke and taking not a little whisky and water. Tennis for the young, golf for the middle-aged, at the end of every week or oftener if possible, is very desirable. Horseback riding in the park is nearly indispensable to some men who have a torpid liver, and nothing seemingly takes its place.

In the matter of exercise, one must, however, always use good judgment, and not overdo it. To a tired man, a brain-worker or to a man who has been on his feet most of the day, to be flat on his back one-half hour before dressing for dinner is far more serviceable than is a fatiguing walk or exercise. To many business men of large cities, taking residence in a suburb—becoming socalled "commuters"—is preferable to their never getting out of town at all. These people feel better for the breath of country air they get, even in winter, late in the afternoon and for their sleep at night. Of course, such men are obliged to get up early in the morning, to catch the train, and they always have a hurried breakfast and often do not take the time for a movement of the bowels. Yet, despite it all, their health improves. Still, in the case of other men, it is precisely the contrary. They can not stand this way of living and long to return to the city and resume their former habits, which practically suit them better, by far. Such is the singular makeup of the human body and mind.

I might continue in this way for many pages. I prefer to stop where I am and to leave it with my readers to consider the truth of what I have written. From all, whether they are with me or against me, I desire a line, telling me their standpoint. My views are simply those of the old practitioner who writes, in a very informal and matter of fact way, to tell the story of what he has seen and believes.

The Wood-Tick as a Cause of Paralysis

By Charles Stuart Moody, M. D., Hope, Idaho
Major, National Guard, State of Idaho.

MANY years ago, the poet Holmes said that once he wrote a poem in such humorous vein that upon showing it to a friend the man laughed so much thereat that he immediately expired. Holmes explained that thenceforth he never wrote as funny as he could have done. I am naturally of a merciful disposition and, consequently, will not attempt to write as learnedly as I can, for fear that you, my gentle reader, might expire upon my display of erudition, but, perhaps, also, for the further reason that it is entirely too much trouble to hunt through the leaves of my memory for obsolete technicalities wherewith to lard my composition. No, these cases of paralysis are of sufficient interest to me without the presence of scientific stilted English, while, if they should not prove so to you, you have my permission (as in Mark Twain's remarks about the weather) to turn to a medical dictionary and ladle in a few pages of its contents whenever you think that the exigencies of the occasion demand.

Now we will proceed.

Some six years ago, a mother brought to my office her infant, a girl of eighteen months, apparently stout and healthy.

"Doctor, what is the matter with my baby?" (How many of you have been asked that question?)

Like all wise physicians, I sparred for an opening. "What appears to be the matter with it?"

For answer, she placed the baby on its feet upon the floor, holding it by the hands. To use her own expression, the baby "spraddled" and sat down rather hard on the floor.

"She can't use her hands and feet," she said.

I became interested. Here was a child, the picture of health, who had never been sick a day, afflicted with complete diplegia of its legs. The mother released the child's hands, and they fell to its sides inert. The diplegia thus became a quadruplegia.

I elicited the case-history and found that there had been no symptoms of illness. The mother had noticed, a few days previously, that her baby did not walk when it was placed upon the floor, but sat down without attempting to arise; next she noticed that it was unable to move its hands and arms. Then, being a sensible mother, she brought it to the physician.

Inspection, in the nude state, revealed a well-nourished girl child, skin and color good, eyes bright, pupils normal and reacting to light, the tongue clear and not in the least tremulous. There was, however, a peculiar rag-baby effect in the limbs as the child lay upon the table.

Further examination disclosed absence of temperature, pulse good, patellar reflex entirely wanting, motor and to some extent sensory paralysis of both legs and arms. As you may suppose, to use a Missouryism, I was "up a stump."

I spent half an hour in a rigid examination and was about to admit defeat, when I chanced to pass my hand over the back of the child's head: the hand came in contact with a hard formation, about the size of a filbert, just beneath the occipital protuberance. Closer examination discovered a common woodtick (dermacentra venenosus) firmly imbedded in the tissues just at the margin of the hair, evidently enjoying his (or her) fill of good rich blood.

I removed the offending insect and thoroughly cauterized the wound with pure phenol, and told the mother to take the child home and report in a few days. She telephoned me in three or four days that the paralysis was leaving, and eight days later she returned with the little one, entirely recovered.

The incident escaped my memory until it was recalled in the spring of 1913 by an exactly similar case, with the exception that in this instance the mother herself had discovered and removed the tick. This child, too, recovered in a very short time.

Last winter was a particularly mild one in this section of northern Idaho and, so, last spring we were afflicted with a perfect pest of woodticks. An enterprising person could walk out in the timber and gather enough for a large mess in half an hour without any conscious effort upon his part whatever. About April 15 I had my first case of paralysis from the bite of the tick (I had decided by this time that the two cases instanced had been owing to that cause), and others soon followed.

These cases of paralysis were all similar, in that the children were under three years of age, that the paralysis involved both of the legs and the arms, that there were no symp-

toms other than loss of motion of the extremities and to some extent loss of sensation, that the tick had, in each instance, fastened itself on the neck just beneath the occiput and at the hair margin, and that it was pretty well filled with blood before being discovered. In every instance, the victim recovered in from two to three weeks, without any other treatment than small doses of potassium iodide—which, to be frank, I do not believe helped in the least. There have been so far as I have been able to see, no serious aftereffects, several of the children having been under my observation since that time.

The eastern reader may be advised that this affection in no way resembles the Rocky Mountain tick-fever; the latter disease is quite a different affair.

I have not sought to go deeply into the pathology of this paralysis; indeed, there is so little to work upon that it offers little inducement for pathological study. It is interesting, however, to conjecture just why the bite of the common tick produces, in certain instances, the train of symptoms enumerated above. It has been suggested that perhaps the tick secretes some toxic principle that might account for the train of symptoms, but, if that were the case, it would seem that the paralysis should be general and not confined to the limbs merely.

Some Good Heart-Remedies*

A Study of the Vegetable Cardiac Tonics

By Finley Ellingwood, M. D., Evanston, Illinois
Author of "American Materia Medica, Therapeutics and Pharmacognosy"; Editor of "Ellingwood's Therapeutist"

IN CONSIDERING remedies acting upon the heart, a distinction can be made between those which influence the heart directly, in its functional operations, and those which are used for treatment of diseases of the heart. It may be said that there is not any definite distinction between these two classes; still, in common usage, I am inclined to think that there is. We give aconite, veratrum, and gelsemium to control that rapidity of the heart's action which is common, with simultaneous increase of temperature, in febrile disease; yet, few of us think of these remedies as applicable where the heart itself is diseased, because the conditions which lead to their use seldom are present. Furthermore, they all are heart depressants, either direct or indirect; and, as in most of the cases of heart disease there is heart feebleness and a depressant is contraindicated, these agents are avoided.

A most interesting article on the action of the remedies named on the heart could be written, as also on the action of atropine, strychnine, ammonium, and camphor; so, also, on rhus toxicodendron, bryonia, ignatia, and some one or two of the hormones; however, in this article I will discuss, in a very brief manner and merely with the idea of presenting the practical facts, a few of the agents included in the second class of remedies I have named, i. e., those that are used for the diseases of the heart.

Digitalis

The best-known of these is digitalis. There is probably no one single remedy of which in the course of more than 125 years so much has been written as of this drug, and, yet, the method in which it acts in all cases has by no means as yet been positively determined. It is certain that it is a heart stimulant, and that it may be given in sthenic conditions as an emergency-remedy, because its effect is almost immediate. When there is prostration, profound weakness, together with sudden heart failure, from violent injury, surgical shock or profound acute infection, or in the crisis of extreme exhausting or protracted disease, digitalis exercises a decisive influence; but, as to just how this influence is exercised, there is a divergence of opinion.

Schmiedeberg advanced the idea that digitalis acts directly upon the muscle of the heart, and this belief has quite general acceptance among physicians. This influence upon the heart-muscle is quite readily observed. It seems to be plain that it acts upon the muscular fibrillæ as an irritant, as

*Professor Ellingwood has just published a new and completely rewritten edition of his book on materia medica, under the title of "New American Materia Medica: American Medicine for American Physicians." For the accommodation of the many readers of Clinical Medicine who will want this book we are prepared to supply it at $5.00.

does strophanthus, or as ergot acts upon the uterine muscular fibrillæ. It certainly is not a nutritional agent. It does not increase the power of the heart-muscle nor is there any evidence of its acting directly through the nervous system. Cactus acts as a nutritional remedy and through its influence upon the nervous system increases the actual nutrition of the entire organ and of certain of the nerve-structures. This cannot be said of digitalis.

Godliet maintains that the influence of digitalis is exerted upon the walls of the arteries and that through this influence its action upon the heart is exercised. There is a consensus of belief that it increases blood pressure [now questioned.—Ed.] and exercises a direct action upon the renal secretion. Any prolonged sustaining power does not seem to inhere in this remedy, except as, through this influence and the addition of other proper measures, deficient heart-power is supplied.

In sthenic fevers, digitalis is seldom used, but in asthenic fevers its influence sometimes is positively demanded, especially where the temperature remains high and the pulse is rapid, feeble, easily compressed, or irregular from feebleness—all evidences of failure of the vital forces. In these cases, it controls the pulse and reduces the temperature as it improves the heart's action. Such remedies as aconite and veratrum would positively be contraindicated in cases of this kind.

Digitalis is prescribed for its influence upon the weak heart in pneumonia. My own experience is that in the sthenic stage it should not be administered, as its influence is much like whipping up a horse when it is still willing and able to go; one must fear that the animal will become tired and need more whipping later. In the asthenic stage of pneumonia, when the heart begins to show failure, digitalis becomes an important remedy. The influence just described, then, is plainly apparent in these cases. To children a larger dose proportionately may be given at times than to adults, although small doses, if frequently repeated, often prove entirely satisfactory.

In passive congestion in which the stasis depends upon feebleness and lack of power in the circulatory organs, digitalis is the appropriate remedy. Here, it imparts renewed force and a renewed capillary tonus, its influence closely resembling that of belladonna. It is prescribed, with excellent results, in intermittent heart action with a feeble and rapid pulse, especially if valvular disease be present or if there be muscular relaxation and lack of power.

Digitalis does not directly influence the secretory and excretory functions of the kidneys, but, by improving the power of the heart, these functions are simultaneously improved—for the time being, at any rate. Renal congestion is overcome, because the increased heart impulse drives the blood through the renal capillaries with renewed vigor, this resulting in an increased flow of urine. Under these circumstances alone, is it valuable in dropsy.

In the general dropsy of disease of the heart, there is deficient capillary circulation and the pulse is irregular and intermittent; there is secreted but a small quantity of urine, and this contains a large percentage of albumin. All this points to the administration of this remedy.

Upon the cumulative action of digitalis I will not enlarge here, since this is known. It is also known that when it is given in full dosage, for its immediate effect, the patient should assume and retain the recumbent position.

Chronic heart disease in many of its forms can be satisfactorily treated with digitalis, but each of these forms, as well as the drug itself, must be studied with reference to its peculiar influence upon the conditions involved.

Cactus

As a remedy for heart disease in general, I have obtained such satisfactory results from cactus that I have prescribed it probably more than any other of this class of remedies. Cactus increases the energy of the heart by increasing its action, stimulating the vasomotor and the spinal-motor centers, through the improved condition of the general nervous tone which this agent surely imparts. There seems to result a quickly improved nutrition of the entire nervous and muscular structure of this organ. It also exercises a direct influence upon the sympathetic nervous system, regulating its action, whatever the perversion. It influences the cardiac plexus, restoring to normal the functional activity of the heart. It increases the contractile energy of the heart-muscle, through the cardiac ganglia and accelerator nerves. It so nourishes the heart-muscle and restores its normal condition, that progressive valvular murmurs often are removed in what seems to be a comparatively short time.

My attention was first called to this remedy in 1870, before I began the study of

medicine, by the fact that a physician, a stranger unknown in our community, had prescribed it for my mother, who for several years had suffered from a most seriously dilated heart, and which at that time had been pronounced incurable, by well-known physicians of the town, and death seemed imminent. The attending doctors did not even undertake to relieve the condition. However, through the use of the cactus, almost alone, prescribed by the stranger, she improved so marvelously that at least two or three years were added to her life. It was through this, I might say, that my interest in vegetable remedies was aroused.

As to the established symptomatology indicating the use of cactus, there first of all presents itself that train of symptoms which points to weakness of the heart-muscle. Associated with this, there is regurgitation, because of valvular insufficiency; the pulse is irregular, usually small, often intermittent; there is dyspnea and a sense of weight and oppression in the chest. Every physical effort increases the heart's action, and violent exertion is sure to produce extreme distress. There is a sensation as of constriction or of a band around the chest, which is a pathognomonic indication for the use of the drug.

The older writers claimed that cactus was useful more particularly for functional irregularities, and, consequently, some of the best physicians would not prescribe it for organic trouble. It has since been found, though, that old-standing cases of feeble, organically diseased hearts often yield to a satisfactory degree to its influence. In my forty years' experience with this drug, it is in these cases that I have obtained my best results.

At the same time, in the case of young people and children, where there are valvular murmurs, and especially in rheumatic carditis in children or in carditis following measles, when given with the other appropriate and definitely indicated remedies, it certainly has worked wonders in my patients. Nevertheless, I could not possibly have other than a strong faith in it from the results that have followed its use when given alone. Rapidly growing children exhibiting valvular murmurs should receive this remedy, especially if they get easily exhausted and out of breath. I consider cactus more readily adapted to childhood than any of the other remedies named.

I have always prescribed cactus in small doses; nevertheless, I am confident that in some extreme cases it can be administered in much larger doses, with excellent result. I have nearly always used one of the liquid preparations, although splendid results have come from the granules, especially in the hands of those who use them constantly and know how to adapt them.

Because of its nutritional properties—which personally I have never been able to explain—there is brought about an improvement in atonic conditions of the brain and spinal cord, in fact, of the whole nervous system, by the use of this agent, and this improvement shows itself quickly in the functional action of all the other organs. It is a splendid remedy in neurasthenia and in some forms of paralysis, or where with feebleness there is a great nervous excitement, or where there is oppressive headache in the top of the head, with great nervousness, not uncommon at the menopause, which latter results from faults in the sympathetic nervous system of the pelvis.

It is excellent also in endocarditis and pericarditis from any cause, although Scudder did not so advise it. My experience and the experiences of many others justify its use in these cases. I have under observation a patient whom I consider entirely cured of endocarditis, who came to me seven years ago with a condition that seemed to baffle all treatment. The difficulty of breathing, which came paroxysmally, seemed to threaten death at every attack. Cactus was the central remedy around which the whole course of treatment was planned and carried out for eighteen months, without intermission. Then from time to time, for another year, there would seem to be nothing further to treat, as the patient was in excellent health. This was an unmarried woman, thirty years of age, who weighed about 180 pounds.

Digitalis is contraindicated where the stomach is irritable, and this condition is increased by it. Cactus, on the other hand, has a beneficial influence upon the stomach and seems to soothe irritability in that organ. However, where the arterial tension is increased and the blood pressure is high, where the nerve-force seems to be exalted and there is something of an excess of strength in cardiac action, cactus is contraindicated. Cardiac palpitation, when accompanied by this condition, will be aggravated by cactus, while it will decrease or be measurably controlled by gelsemium, the bromides or macrotys.

In the treatment of impotence and sexual neurasthenia, the drug can profitably be combined with avena sativa, saw palmetto, nux vomica, zinc phosphide, or phosphorus in

some one of its easily assimilated forms, with excellent results. Given alone it is of much assistance.

Strophanthus

Strophanthus has a direct influence upon unstriped muscle-fiber. It acts vigorously upon all muscular structures, especially those of the womb and blood-vessels; but its specific influence is exercised upon the heart, although also affecting the respiratory muscles profoundly. Its influence seems to be that of an irritant. It increases the systole, and there is a rise of blood pressure. Being brought into direct contact with the muscular structure of the heart, after absorption into the circulation, its influence is exerted direct, and not through the central nervous system; and this influence is more enduring than would, at first blush, be supposed. For this reason it is given, with good result, in enlargement of the heart where the muscles are flabby. Although acting in this particular somewhat like digitalis, it is not cumulative nor does it irritate the stomach to any degree.

The indications are similar to those for digitalis. It relieves difficult breathing, and is occasionally beneficial in asthma. It is used in fatty degeneration and in atheroma, and in some cases of Bright's disease. It seldom is given continuously, as is digitalis, although a few patients afflicted with goiter or exophthalmic goiter have been benefited by its continued use. It has been thought to assist in the assimilation of iron, especially in patients suffering from persistent anemia.

Convallaria

Convallaria was brought forward a few years ago as a remedy of remarkable powers in its action upon the heart. It has not found general adoption, but in certain conditions it is a useful remedy. It is used in simple cases of arrhythmia, where there is no cardiac enlargement or valvular fault. It is given in mitral constriction, where there is failure of compensation; also in mitral insufficiency, especially if pulmonary congestions occur. In dilatation of the left ventricle, it has been found useful in restoring the energy of the heart when sufficient compensatory hypertrophy has not taken place.

Convallaria is advised whenever the heart is dilated and also weak. If dropsical conditions obtain, it is useful, especially where there is sluggishness of the general circulation, where the capillary circulation is markedly imperfect and the blood pressure diminished. It should be given in small doses frequently repeated, when no harm will occur. If the kidneys are not diseased, it can be increased to a point when very large quantities of urine are secreted. In this condition, taking it with hot water materially increases its uropoietic action; but, if there be profound disease of the kidneys, there will be no response. However, it has been found beneficial in some cases of Bright's disease. Occasionally dropsical effusions are reabsorbed after this remedy is given; or, if diuresis is induced, the pulse will grow full and more regular and, often, slower, and the strength of the heart is increased.

Convallaria is useful in the feeble heart that results from the protracted use of tobacco, especially cigarettes; also from any kind of strain. We no longer talk of bicycle-heart, which was common in the period of the inordinate use of that vehicle; but, the excessive devotion to athletics as now so general among our young men brings about the same results, especially in those who also smoke; and this makes it necessary to use agents of this character.

Convallaria is an excellent remedy when indicated, used either alone or in conjunction with cactus or digitalis, or with direct nerve stimulants such as strychnine and phosphorus. It does not produce irritation of the stomach, but, on the contrary, it is of service in dyspepsia, especially if there is a tendency for the tongue to be red and thin, with elongated papillae.

Apocynum Cannabinum

Apocynum cannabinum is a remedy that was originally used for dropsical conditions only. Owing to its influence upon the heart, which I had been observing for a long time, I classed it in the first editions of my "Materia Medica" as a heart-remedy. In this, I was entirely alone at the time. Since then, this classification has become generally adopted by all writers on this subject. Wood's observations on this point have been extensive and conclusive. These and other physiological experiments have shown that it is an active cardiac poison, producing profound contraction, the heart, from the toxic influence, stopping in systole.

Apocynum seems to supply increased arterial tension, but it assists most materially in removing dropsical effusions. Specifically, it is a remedy for dropsy. The exact indications in which it is demanded are those of general dropsy, beginning with puffiness of the face or of the cellular structures beneath the eyes, and a swollen condition of the feet and ankles or of the hands and wrists.

If this effusion depends upon defective kidney action, and provided there is not too much structural change in these organs, its influence is excellent; but, where the structural change is extreme, its action is much less marked; where the dropsy depends upon heart faults, its influence is direct and satisfactory. In many cases, a tumultuous heart, associated with difficult breathing, has been controlled with this drug, especially when the heart was very feeble. Dropsy in the aged, in whom there is an irritable, irregular, feeble heart, and weakness is constant from this cause, often will be relieved by this agent.

Apocynum stimulates the circulation, to a certain extent, although it produces irritation of the stomach and intestinal tract. This latter action, however, can usually be avoided by giving small doses, but frequently repeated. A large number of physicians who have used this remedy for years unite in asserting that it is the most dependable medicine we have for general dropsies. If given in the presence of the above symptomatology, it is most reliable; still, many physicians complain that it produces so much gastrointestinal irritation that no influence upon the dropsy can be secured. Others do not feel certain about giving it, and hesitate about relying upon its influence in bad cases. Others give it with confidence, and claim to get only good results.

I would advise those who have not had experience with its use that they administer it first in doses of not to exceed 1-2 drop of the fluid extract every hour, increasing this quantity after the second or third hour to 1 drop; then, after a few doses, to 1 1-2 drops, and so on until either good results appear, or irritation, when the doses should be given further apart; the remedy should not be persisted in if gastric irritation continues. So administered, it can be readily adapted to almost any case, as the prescriber knows that after twenty-four hours, if there are satisfactory results, it may be discontinued. However, the prescriber must look for the usual general indications of dropsy, as above explained.

Apocynum has been given in hydropericardium, with excellent results, and in other conditions in which there are local effusions, as well as in hydrocephalus. One would hardly give it in the expectation of great results following in such a case, but, if its persistent use would prevent further effusion in favorable cases or would in the least abate the quantity of serum within the cranium, it would, in the case of many patients, be acceptable.

Quite a large number of physicians have employed this remedy, with excellent results, in the treatment of sciatica; 1 drop in a little water being given every half hour or hour. In certain cases, it is diluted and injected over the nerve. There are failures, of course, but also marked successes in this use of this remedy.

Cratægus

A heart-remedy that has promised excellent things in the last fifteen years is cratægus oxyacantha, or, the English hawthorn. I have received reports from very many reliable authorities as to its action, and, while these reports cover nearly all the conditions mentioned as being influenced by the previously named remedies, the consensus of opinion centers upon the action of this agent, namely, that it ameliorates the disagreeable symptoms of a chronically enlarged heart, with valvular faults, and of the dropsical tendencies and feebleness of advancing age.

This remedy must be used to be appreciated, because on the surface it does not seem to possess any profound influence. As yet I have not been able to find any report of laboratory observations about this agent that I thought were sufficiently corroborated to be reproduced. It is given in doses of from 4 to 8 drops. Those who have given it in doses of from 10 to 15 drops think that it produces irritation and unsatisfactory results. In proper doses, it relieves dropsical conditions. It controls irregularity and uncertainty of the heart's action. It seems to impart a new tone and new strength, although it cannot be relied upon to restore nervous tone or to exercise that peculiar nutritional influence that follows the use of cactus and its concentration, cactoid.

The difficult breathing, the general feebleness, and the marked inactivity, that are apparent in protracted cases of dilated heart, give way under this remedy to increased activity, buoyancy, general encouragement, and hopefulness, and the patient experiences a general sense of wellbeing. While these patients cannot always be expected to be cured, yet, the benefits obtained from this drug are often all that could reasonably be desired.

In addition to the foregoing uses, a number of individual prescribers are employing cratægus, either alone or combined with cactus, in children's diseases and in rheumatic inflammation of the heart, while in other acute and chronic disorders they claim for it highly satisfactory results. I have a great deal of confidence in the remedy, this being based

upon reports of so many practitioners who, I have reason to believe, have made careful and conscientious trials and have so reported. I am confident that it will justify very thorough and careful study.

Adonis Vernalis

Adonis vernalis is a heart-remedy that has been studied abroad, and much evidence has been collected in favor of its action, or, more particularly, of the action of adonidin, an energetic derivative. Where, from incompetent heart action that results in faults of arterial tension, the consequent train of symptoms occurs, adonis has been found to be most frequently serviceable. It is valuable in irregularity of the heart and also in the dyspnea of feeble heart or of asthma.

There is in vogue a formula, one which has become quite popular in the treatment of epilepsy, in which 40 grains of adonis is dissolved in 5 ounces of water, to which is added 160 grains of potassium bromide and 3 grains of caffeine. This is given in 1-dram doses four times a day, whether the epileptic has heart faults or not.

Lycopus

I would call the attention of readers of Clinical Medicine to lycopus as an agent that I have found of great value when, with heart faults, there are present chronic pulmonary difficulties. Whether the heart trouble is functional or organic, the irritability and irregularity or the difficult breathing with oppression in the region of the heart are all benefited; while it seems that, at the same time, there is exercised a direct influence upon the pulmonary trouble. Lycopus reduces the velocity of the pulse, exercising a sedative influence, controlling irritability, and antagonizing inflammatory processes, according to some observers, in a manner superior to that of any other remedy. If its usual indications are associated with high temperature, its influence is a good one.

Some of our older writers depended upon this drug to control hemorrhage from the lungs, whatever its cause and however exhibited. Some of our younger men have obtained good results from it and speak very highly of this particular influence. The specific indications for its use in such cases are hemorrhage, with a high, tumultuous heart action and rapid pulse, in incipient phthisis. It regulates the heart's action and equalizes the circulation in the lungs more readily even than does atropine. It is especially beneficial in these cases when there is persistent irritable cough.

I have had excellent results from this remedy in the treatment of exophthalmic goiter. I have combined it with veratrum viride and iris or phytolacca, and in one case, in which tachycardia had been pronounced for two or three years without the exophthalmic symptoms, but with respiratory and circulatory irritation, I believe this remedy was the principal agent that enabled me to put that patient into perfect health after a few months' treatment, with no evidences of exophthalmia appearing subsequently. Lycopus is advised for strengthening the action of the heart and to control the temperature in prostrating fevers—asthenic fevers—especially in prolonged typhoid fever. Evidences are very strong that it reduces the excessive heat, without depressing the vital forces of the patient; that it acts as a heart- and nerve-sedative, without any depressing influence; that it can be used in conjunction with aconite and veratrum, in doses of from 1 to 5 drops every two hours, with excellent results.

Not only in hemorrhage from the lungs but in all hemorrhages its influence is described by some observers to be very reliable, a few depending upon this in preference to other styptics in passive hemorrhages. This is especially true where there has been chronic diarrhea, or in the gastric hemorrhages of alcoholics, or in hematurias. This influence is exercised without producing gastric irritation; in fact, it allays gastric irritation and intestinal irritability, and, while increasing the appetite, it promotes digestion.

It would be desirable, indeed, if I had space, to enlarge upon those remedies that have a contributive influence upon the heart. The most direct ones would be sparteine, caffeine, veratrine, aconitine, and strychnine, but space does not permit. Another remedy that seems to promise most excellent things at the moment of heart failure or in severe cases of angina pectoris is *lobelia*. This remedy should certainly be studied with reference to this influence.

A Summary and a Comparison

A summary of the principal points of action of these five remedies and a comparison of their influences may prove to be of service to the readers, in cases of emergency or also in treating cases, when care must necessarily be exercised.

Regarding their action upon the nervous system:

Digitalis acts upon the inhibitory nerves, but it does not impart nerve tone or increase nerve-force.

Cactus is a true nerve-tonic, especially for the sympathetic nervous system. It increases the general nerve-force. Through this influence, acting upon the cardiac plexus, it imparts unusual strength to the entire heart-muscle It seems to improve materially the nutrition of the heart and by this means to restore organic defects and to overcome functional derangements.

Strophanthus does not seem to influence the nervous system to any extent. While in some cases such an influence has been observed, that undoubtedly has been brought about by an improvement of the general circulation of the blood.

Convallaria influences the nerve-centers to a very small extent—it acts through the vagi. Often, however, much improvement of the condition of the nervous system occurs during its use, which hardly can be attributed to other influences.

Apocynum acts upon the nervous system mildly, increasing nerve-force, improving the strength of the nerve-centers, and modifying nerve irritability in feeble cases.

Action on Heart

Regarding their action *upon the heart direct:*

Digitalis influences the heart-muscle as a stimulant or irritant, through its influence upon the muscular fibers. It increases the heart action when feeble, improving its power and tone. It is not, strictly speaking, a tonic; neither is it nutritional. In fact, in overdoses, it decreases the nutrition. It improves the heart, in heart strain, in its first influence, but later it may cause collapse.

Cactus acts upon the heart through the intercardiac ganglia, as stated. It gives actual nourishment to the heart-muscle. It slowly raises the blood pressure by its influence in increasing the muscular motor energy. In feebleness, it slows the heart, but it never depresses. It is soothing in the irritability of feebleness.

Strophanthus acts directly upon the heart-muscle, by irritation of the fibrillæ, in direct contact. It imparts no strength, but, rather, it increases the force and power of the heart and raises the blood pressure.

In its direct action upon the heart, convallaria has a permanent effect as a tonic, increasing the power and force of the heart more like cactus, without the property of irritation of digitalis and strophanthus.

Apocynum, in its influence upon the heart, acts more directly upon the vessels of that organ, and, yet, it influences the muscular power permanently and increases in a slight degree the arterial tension.

Comparing the influence of these remedial agents upon the pulse:

Action on Pulse

Digitalis, when given to feeble patients, changes the character and frequency of the pulse immediately, though its influence is not always uniform; still, it can be relied upon to impart strength and force and to reduce a rapid, feeble pulse.

Cactus increases the magnitude of the pulse beat, reduces the number of the beats, overcomes rapidity, and imparts strength.

Strophanthus materially increases the strength of the pulse beat, lessens the number, regulates irritability. Its influence often is immediate.

The influence of convallaria upon the pulse occurs slowly, but the magnitude and strength of the pulse are found to be improved, and its action becomes regular, uniform, and stronger. The same statement can be made of the action of apocynum upon the pulse, especially when there is febrile action accompanied by dropsy.

All the more important of these heart-remedies, except cratægus, are represented by some active principle or a concentration. Laboratory investigation concerning this remedy has not as yet been conducted to any extent; therefore, there undoubtedly is very much to be learned concerning it.

Action on Respiration

As to their influence upon the respiration:

Digitalis improves the respiratory function, but largely through its power of overcoming capillary stasis in the lungs thereby increasing the action of the heart.

Cactus exercises a peculiar influence in relieving distressing breathing, especially if there be endocarditis or pulmonary congestion, but the influence is much more slowly obtained than that which results from the use of digitalis.

Strophanthus increases respiratory power and restores normal respiration.

Convallaria causes deep regular breathing, removes oppression in the chest, and overcomes dyspnea from mitral insufficiency.

Apocynum affords freedom of breathing only when oppression results from effusion, although, by a peculiar influence exercised by it, it facilitates the oxidation of the blood.

Regarding their influence upon the stomach and bowels:

The irritating influence of digitalis is a serious objection to its continued use. It has no beneficial effect upon the stomach. It does not nauseate or produce diarrhea, but

the continued irritation reduces the appetite and prevents the assimilation of food.

Cactus, on the contrary, exercises a very soothing influence upon the stomach. It promotes the appetite, imparts a functional tonicity to this organ, while inducing no intestinal disturbance. When there is present palpitation from gastric irritation, cactus is of great assistance.

Strophanthus in overdoses has produced vomiting and diarrhea, but in medium-sized doses no influence is exercised upon the stomach.

Convallaria is a mild gastric tonic. It increases the appetite and digestion, and does not produce irritation.

Apocynum is a violent prostrating emeto-cathartic, some patients being much more susceptible to it than others. In some feeble patients, very small doses persisted in cause severe gastric irritation, while others can take large doses without this effect.

Action on Kidneys

Concerning their influence upon the kidneys:

Digitalis actively increases the flow of urine, especially if given in the form of infusion, but it does not improve the general renal secretion. Overdoses of this drug may cause suppression of the urine.

Cactus exercises no influence upon the kidneys, except that which is brought about by improved heart action resulting from an improvement in the arterial tonus.

Strophanthus acts directly both upon renal secretion and excretion. At times it causes marked diuresis, but its action is not always uniform, although sometimes satisfactory.

Convallaria stimulates excretion and secretion to a degree, is quite active in dropsy, while inducing no depression; but its diuretic influence is secondary.

Apocynum induces secretion of large quantities of limpid urine. The solids are not greatly increased. It relieves dropsical conditions to a certain extent, through this influence upon the kidneys.

Therapeutic Applications

As to the *general therapeutic application* of these five remedies:

Digitalis acts at once when it is given in shock and in sudden heart failure, increasing heart action promptly. It is used in surgical shock, or shock from injury; in asphyxia and in poisoning; in heart failure from prostrating disease, as in the later stages of pneumonia. It is of much value in selected cases of valvular incompetency.

Cactus is not considered an emergency-remedy, since it requires some time to make its influence felt. It is used in prolonged or progressive heart weakness; in overstrained heart; in bicycle- and cigarette-heart; in masturbators' palpitation; in sexual and general neurasthenia. Cactus acts most quickly in functional derangements.

Strophanthus is an emergency-remedy in heart failure, but inferior to digitalis. It is indicated where the heart lacks contractile power. It acts well in cardiac asthma, atheroma, fatty degeneration, goiter, the weak heart of Bright's disease, and in all functional derangements. Its influence continues long after its use is stopped.

Convallaria quiets the irritable heart, and it restores strength to the heart after failure from shock or protracting disease. It is used in cardiac dropsy and in functional faults.

Apocynum is not an emergency heart-remedy, except in failure from extreme dropsy and in hydropericardium. Its influence upon the heart is but slowly manifested. It is valuable in progressive heart weakness, especially in protracted fevers. It is a most reliable remedy for dropsy.

IKE WALTON'S PRAYER

By James Whitcomb Riley

I CRAVE, dear Lord,
No boundless hoard
Of gold and gear,
Nor jewels fine,
Nor land nor kine,
Nor treasure-heaps of anything,—
Let but a little hut be mine
Where at the hearthstone I may hear
The cricket sing,
And have the shine
Of one glad woman's eyes to make,
For my poor sake,
Our simple home a place divine;—
Just the wee cot—the cricket's chirr—
Love, and the smiling face of her.

I pray not that
Men tremble at
My power of place
And lordly sway,—
I only pray for simple grace
To look my neighbor in the face
Full honestly from day to day—
Yield me his horny palm to hold,
And I'll not pray
For gold;—
The tanned face, garlanded with mirth,
It hath the kingliest smile on earth;
The swart brow, diamonded with sweat,
Hath never need of coronet.
And so I reach,
Dear Lord, to Thee,
And do beseech
Thou givest me
The wee cot, and the cricket's chair,
Love, and the glad sweet face of her!

A Few Characteristic Cancer Cases

By G. N. Murphey, M. D., Paducah, Kentucky

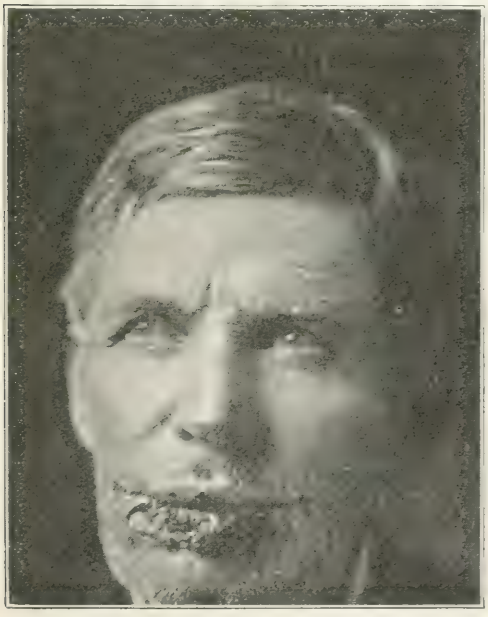
SINCE writing on the nonsurgical treatment of cancer in Clinical Medicine, May last, I have received letters of commendation of the article from eleven states and Canada. As there are many practical features connected with this subject upon which I did not touch in my first article, I have concluded to discuss some of these now.

As cancer has never been proven to be a germ disease, I am of the firm opinion that it has its origin in a constitutional dyscrasia predisposing to it. This predisposition, I believe, is usually inherited, while sometimes it is acquired. This opinion I base upon the following facts:

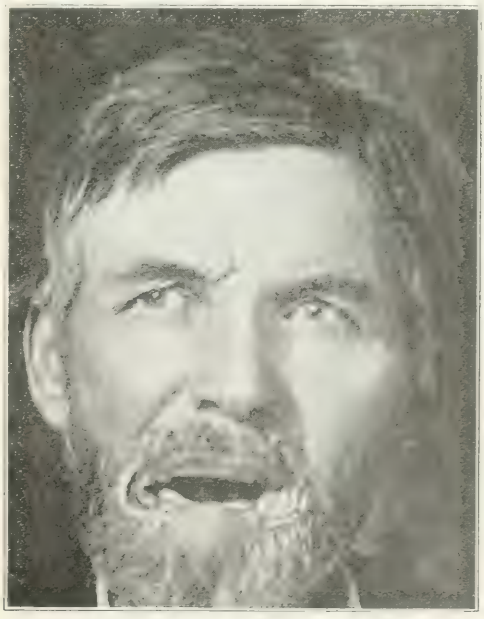
In a large majority of all cases of cancer that have come under my observation, I get a history of the disease having existed in some blood-relation before them. I also find the disease much more frequent in the poor than the rich and well to do class of society. There is unquestionably some specific reason for its existence under these conditions.

In the first place, we know that predisposing causes to certain diseases are inherited, as in tuberculosis, insanity, epilepsy. So, also, I believe there is an inherited disposition to malignancy. That predisposing cause may be anything that lowers tissue resistance below the normal standard of health. In those who do not inherit this predisposition, but who have cancer, I believe it is acquired; and, as it is more frequent among the poor, I naturally conclude that it arises from those conditions that surround the poor, namely: bad hygiene, food of poor quality and insufficient quantity, and hardships in general.

When, now, this predisposition exists, only an exciting cause is necessary to bring the disease into existence, and this cause usually is a traumatism, either known or unknown, severe or slight, acute or chronic. I have seen cancer start from a kick or blow, from the long-continued pressure of the spectacles upon the nose or from the friction of a suspender against a mole or wart on the shoulder or back. In one case, I saw it start from pulling a hair from a pimple on the face. Other causes from which I have seen it start are: bee-stings, tick-bites, frostbite, sunburn, fireburn, extraction of a tooth, splinter in the flesh, mole or wart cut by the razor, and the like. Occasionally, it seems to be purely a degeneration of the normal tissue into a malignancy, without any known injury.



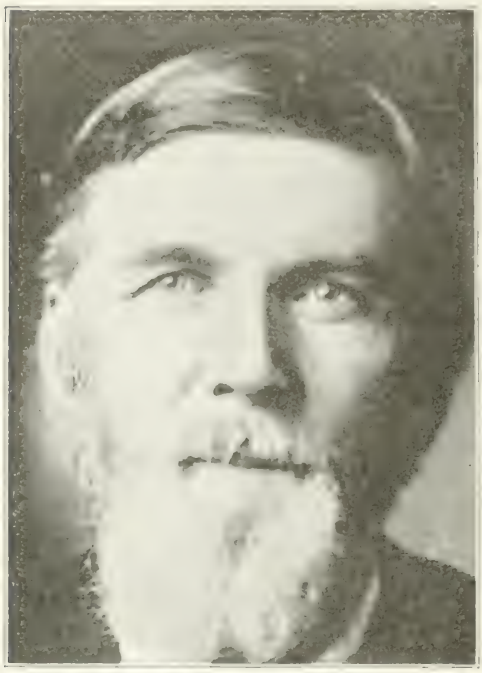
Case 1. Entire lip cancerous.



Case 1. After first treatment and lip had sloughed.

Characteristics of Cancers

In their growth and development cancer-present many different forms and characteris-



Case 1. Result of treatment. Taken Oct. 20

tics. Some begin in a new growth, as a mole, wart or tumor, which may attain large size before ulceration or open sore shows itself. Some start as a water-blister, some as a lump beneath the skin, some as a crack or fissure on the hand, lip or the nipple of the female breast, some as a white mucous patch in the mouth and growing as a milk-white ulceration, some as an ulcer with a raised edge around it, some as a black or purple lump on the lip or tongue. Some are black, some flaming red, some white. Some begin as a brown or black scale on the skin, which falls off occasionally, this being repeated several times, but sooner or later ulcerating. Some build up, like a knot on a tree, while others are flat and depressed in the center from the start. Some are smooth on the surface, others are wartlike in appearance. Some grow very slowly, others grow rapidly.

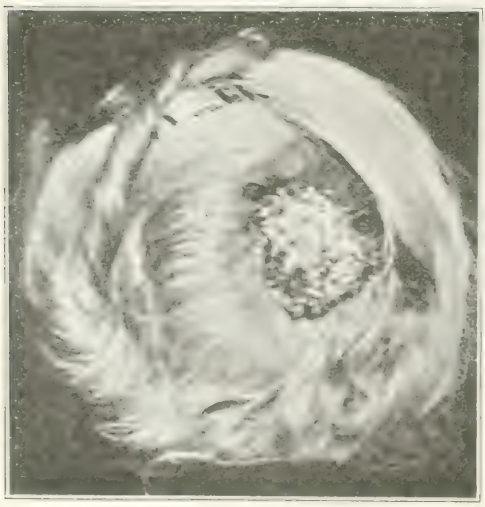
I have seen cancers that presented all the above phases and conditions. No organ or tissue of the body is exempt from attack, and neither age, nationality or sex.

The disease is rarely seen in persons under forty years of age, though Doctor Massey records a case of cancer in the eye of an infant only six weeks old. I saw one case on the face of a child eight years old.

The full-blooded negro is almost exempt from the disease. Men have cancer oftener than women. The face, head, neck, and hands are more frequently attacked than is any other part of the body. The female breast and the womb are the organs next most frequently attacked. These are the most common forms and characteristics as I have observed them.

Diagnosis and Treatment

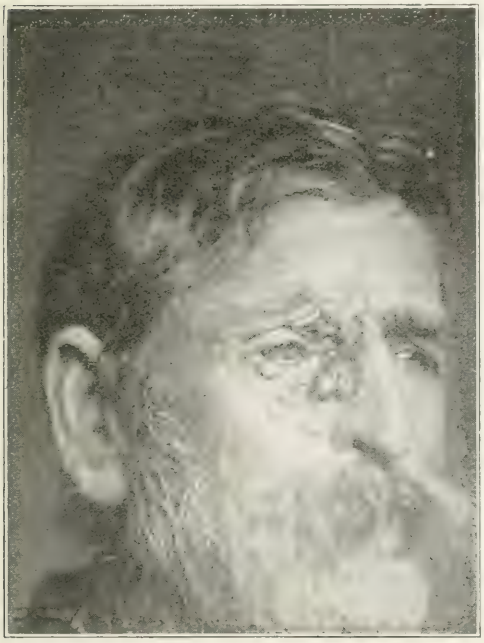
After all, diagnosis and treatment are the most important things connected with the subject. I am often surprised to see well-informed and good, successful practitioners of medicine who know little or nothing about



Case 2. Before treatment.

Case 2. The result.

the diagnosis of cancer, and far less about the successful treatment of it. I heard the dean of one of the best medical colleges of Kentucky say that he did not believe anyone could cure cancer. A great many of the laity do not believe any educated doctor can cure cancer. They think the disease must be cured by some farmer or blacksmith or carpenter, by some means not known to the educated doctor. I knew of a farmer and also of a blacksmith, both of whom were



Case 3. Before treatment.

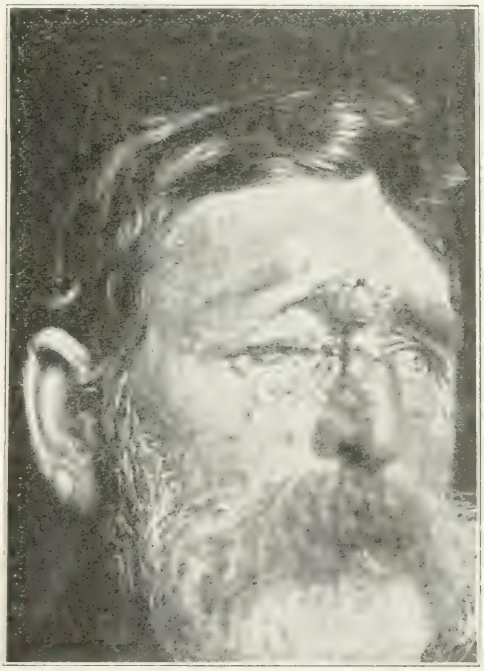
treating cancer, and each one made a fatal mistake by placing a destructive caustic over the carotid artery and thus killed their patients. One of my patients told me a carpenter had been treating a rather extensive cancer in his mouth with a stick of caustic and had made it a great deal worse. I cured him by means of the electric needles.

All cancers are local at the beginning, and, if external and treated in time, before metastasis has occured, they ought to be cured. It is not always easy to distinguish between the difficult and the impossible, that is, the curable and the incurable. I have treated between three and four hundred cancers during the past twenty years, and my judgment is not yet infallible; still, in the main it is good. I never treat any case of cancer unless I can see a fair chance to cure it. I have never pronounced a case of cancer incurable that anyone else ever cured afterward. I recall one patient who came to me for treatment several years ago. I told him his cancer was incurable. He went to a rather noted specialist in Nashville, who treated him for several months, until at last the man died of his cancer. He had plenty of money and was willing to spend it freely for a cure.

As I went pretty thoroughly into the methods of treating malignancy in my other article on cancer, I shall not treat on that part of the subject in this paper. I shall present some pictures, however, of some recent cases which I have treated, to show conditions before, during and after treatment.

Some Illustrative Cases

Case 1. Patient brought to me May 27, from Winchester, Tennessee, by Dr. John P. Grizard. Entire lower lip was cancerous from



Case 3. After first treatment, when lesion had sloughed.

one corner of the mouth to the other and extending into the cavity of mouth at right side for about one inch. There was considerable sloughing of the lip on right half. This patient was treated with zinc needles and electricity, on May 29. On June 11, patient again came for inspection. The lip had sloughed off and a small focus of diseased tissue remained at either corner of the mouth and a small point or two within the cavity

of the mouth. At this time, a second treatment was given the cancer-tissue that remained. The case progressed nicely as shown in cut No. 3, with the exception of a small pointt he size of a hazelnut at the right corner of the mouth, which was treated October 20, and a complete cure ought to result by December 20. Although the entire lip was lost, yet, there is but little facial deformity.

Case 2. Lady, 70 years old, cancer on back of head, circular in shape, 2 3-4 inches in diameter. This lesion started from a small birthmark four years ago, and was of the warty, or cauliflower, growth; color of raw beef and very painful. After treatment with zinc needles, June 10, a slough came away more than 3 inches in diameter, with a thin plate of the skull 2 1-4 by 2 inches in diameter. Granulation and healing progressed steadily, until she was practically well* on October 15, as shown in the cut.

Case 3. Cancer involving the entire lower lid and half of the upper lid and other tissue, as shown in cut No. 1. This case was treated with zinc needles September 1, and again on September 10, after sloughing from first treatment. This case is now progressing finely, and I expect a complete cure to result by December 25, with the sight of his eye unimpaired. I shall have a third picture made of him as soon as well, and will send it to Clinical Medicine for publication, probably with some others.

Case 6, (the old lady shown in May Clinical Medicine, with the large cancer on the side of face) has been entirely well since May 20. I had a picture made of her at that time and sent it to the editor of this journal.

There are some other diseases that I have treated successfully by nonsurgical methods, which I will merely mention, as a description of their treatment would make this paper too long; namely: hernia and hemorrhoids. Many surgeons and medical practitioners deny that this can be done. To such I would say, investigate the subject thoroughly before you deliver your verdict. Most cases of hernia and hemorrhoids can be cured without necessitating detention from business.

*There is still a thin film of scab tissue about the size of a silver half dollar, no thicker than brown paper, which will scale off in a few days and leave the entire area clean and sound.

What of the Winter?

Suggestions for the Treatment of Seasonal Diseases

By George L. Servoss, M. D., Reno, Nevada
Editor of "The Western Medical Times"

As I was looking out of my window this the morning of November the 9th and seeing the first snow of the season, there came into my mind the question of the management of the many hiemal diseases and disorders. People now are going to have colds, bronchial irritations, influenza, sore throats, pneumonia, diphtheria, rheumatics, and all the other ailments that go with the wintry season, and it behooves us guardians of health to be prepared to cope with them.

To begin with, there are, most of all, the colds. Of course, the term "cold" is a misnomer; however, that the condition thus designated occurs with greater frequency during cold weather, is a plain fact. Primarily, as soon as the first chilly night comes along, shut go the windows and doors and we once more become "birdcage"-animals. Added to this, we build fires and almost invariably get our habitations and places of occupation heated up to an abnormal degree. And then down goes our vitality. Consequently, if we would stay well, we should see to it that the quarters in which we live and work are well ventilated, but also adequately heated.

In a superheated room, our capillaries are relaxed, then, when we go out into the cold air, these vessels immediately contract. The result is that a considerable portion of our blood is thrown toward the internal organs and the body's surface suddenly correspondingly chilled. Then comes the "cold" or mayhap worse. A contraction of the vessels of the air-passages means that not sufficient warmth is given to the inspired air and that there will occur a sudden chilling of the mucosa all along the route, from the tip of the nose to the furthermost end of the bronchioles. This in turn means a lowering of the vitality of the mucous lining and the provocation of congestive or inflammatory processes along the entire tract The sudden

chilling of the surfaces, this driving the blood to the interior, increases these abnormal processes, and from that there arise the various disorders of the air-passages, upper as well as lower. And this lowering of the vitality generally makes possible the more easy invasion of the pathogenic germs of one kind or other.

Another factor that strongly predisposes to the winter disorders, is, the prevalent custom of wearing too heavy clothing. With the coming of fall, we begin putting on woollen underwear, light at first, but soon substitute—many of us—garments as heavy as we can get. Bear in mind that the majority of us of the North, and especially those who sojourn in the steam-heated offices and apartments of the cities, live in an indoor atmosphere that would be considered excessively hot during the summer months. Being overdressed, every tissue of our body becomes relaxed, and this, again, means a lowering of our defensive forces, and to such an extent that when we do go out into the cold, often extreme, our fighting-capacity is far below par. Then there is a sudden tightening up of the circulation, and this predisposes to internal congestions, if not inflammation.

With our residences and working-places well—quite too well—warmed, there is no reason why we should burden ourselves with much heavier house-clothing in winter than we wear in summer. I have noticed that those who wear linen-mesh or similar underwear the year round, suffer less from the winter maladies than do those who change to boardlike woollens with the coming of the first chilly day. Yes, I have seen some men wearing "athletic" underwear, the sort without sleeves and with leggings reaching only to the knee, and who went through winter after winter without contracting even a semblance of a cold, to say nothing of the more serious diseases.

We ought to dress as many of the Russians do; we should wear lighter-weight clothing while within our warmed habitations and when going out of doors put on extra heavy outer garments. In that way, we should be able to hold our circulatory equilibrium at all times, and there would be no sudden shock because of the sudden marked change in temperature.

Fresh Air Does Not Kill

But it is impossible to convince the multitude that fresh air and proper temperatures never killed anyone. Many of our fellow-citizens who have come here from foreign lands continue to plug up every possible crack in their houses, keep doors and windows closed, and otherwise interfere with ventilation, from the last hot autumn day to the approach of summer. Not only that, but many of them pile on all the clothing they may possess, while some of them rarely bathe during the colder months. And, indeed, strange as it may seem, some of our American-borns pursue exactly the same course.

And then we see many of our people filling up with immense quantities of food during the colder months, and that without paying any attention to balanced metabolism or to the getting rid of that which is unnecessary to sustain life. Not infrequently do we find the victim of some winter disorder whose colon is overburdened with accumulated masses, and whom a good emptying out may bring back to normal. This overeating, we know, predisposes to acidoses, and that means a marked lowering of the vitality, as a rule. Being poisoned with the products of food splitting, one finds himself the ready-marked object of pathogenic infections.

While the majority of winter diseases are a consequence of this or that bacterium, the specific cause need be considered only in passing, when we come to the question of therapeutics; that is, to the remedies to choose. If we are going to employ vaccines or bacterins, we must, of course, know the specific infecting agent; but for ordinary drugs this is not an absolute necessity.

Circulatory Equilibrium

In practically all of the winter disorders, there is present a disturbance, great or small, of the circulation. There is almost invariably congestion of the mucosa of the air-passages, with a consequent diminution of the blood at the periphery; and this is one of the main conditions which we must combat. And how shall we reestablish a circulatory equilibrium?

Aconitine is one of the best agents we have for this purpose, inasmuch as it dilates the peripheral capillaries and allows of more blood being carried to the surface; thus relieving the internal engorgement.

Veratrine has a like effect, and also increases elimination, both by the skin and kidneys, thus favoring the removal of toxic materials from the system. These two drugs, used singly or together, as a rule will bring about an equalizing of the circulation. This action I have seen demonstrated time and again

in patients showing an increased temperature, accompanied by chilly sensations.

With the establishing of the drug-effect the fever has been lowered and general warmth of the patient established—sweating, in many instances. And, regardless of the specific infecting agent, I have seen this occur in various conditions.

Indicated Drug Combinations

The lowering of the congestion also acts to decrease the exudation of materials which act as culture-mediums for the various germs, so that, as a consequence, there is a lessening of germ growth and incident germ activity.

The addition of strychnine and of digitalin to aconitine, will increase the action of the latter. Strychnine arouses the vital forces and sustains life, while the digitalin, through slowing the circulation, allows less blood—or, rather, the same amount of blood in longer periods of time—to travel to the affected part. When veratrine is associated with aconitine, the digitalin may be retained, but the strychnine dropped. And these various combinations are of use in all congestions and inflammatory processes of the air-passages, regardless of the specific infection present.

In those cases in which we find delirium, with signs of retained toxins, the combination of aconitine, digitalin, and veratrine is the indicated remedy, because—besides its bringing about an equilibrium of the circulation—the veratrine acts to open up the avenues of elimination, and thus rids the system of toxins.

These two combinations afford the physician agents which may replace each other from time to time during the various stages of all winter disorders. If there is fever, without delirium, the aconitine, digitalin, and strychnine combination is indicated; if there is delirium, the aconitine, digitalin, and veratrine come into play.

Where Atropine Is Demanded

As to acute congestions and inflammatory processes of the upper air-passages, it is possible, if seen early, to abort many of them. Here we need a drug that will force the blood out of the tissues, and no other single agent meets the indications better than does atropine; but it must be employed in the early stages, to be thus effective. When used for the aborting of such conditions, atropine must be pushed to the limit of its physiological action—that is, until the throat feels dry and a mydriatic effect is noticeable. This result may be brought about by giving, by mouth, small doses frequently repeated, or full physiologic amounts hypodermically.

However, atropine is a drug which must be watched closely, and, while the full dose may bring about the desired result, one must always bear in mind that the patient may have an idiosyncrasy for the drug, so that an undesirable effect possibly may follow full dosage. Consequently, to my mind, it seems better to administer the smaller amounts internally. Not infrequently the therapeutic effect will be obtained without the physiologic showing. In such instances, it is not necessary to continue with it, of course, to the point of saturation.

Painful Winter Ailments

Along with the diseases considered, we also encounter numerous painful conditions, some increased by motion and others relieved thereby, and it behooves us to know about the indicated drugs.

In the pleurisy of pneumonia, when every movement increases the pain, bryonin meets the indication.

In influenza, when the pain is relieved by moving the part, rhus toxicodendron—the tincture or the concentration, rhusoid—often will afford relief. This latter drug is also indicated when there is elevation and congestion of the papillæ of the tongue, with localized burning pain in the frontal region over the orbits; so, also, in those sharp, boring pains elsewhere, that are relieved by motion.

Hyoscyamine seems to act as a synergist to either of the above-mentioned drugs, and may be employed in conjunction with either.

Strychnine, through arousing the vitality, also may act as a synergist and prolong the effect of these pain-relieving agents.

Irritation of Mucosa—How Relieved

To overcome irritations of the mucosa of the air-passages, it is probable that we have no single agent superior to codeine. This is particularly true of those irritations of the throat that are accompanied by cough. It is also very effective in controlling the troublesome cough of pneumonia; but in this condition it should not be used if it interferes with elimination of the exudates.

It is probable that no other drug gives more comfort to the patient than does codeine in the controlling of the coughs which follow and stay with the patient for some time after

the acute stages of influenza, pharyngitis, and laryngitis, or common "colds." These are the coughs that keep the patient awake at nights. A quarter grain of codeine, given on retiring, often will allay the irritation and within a few days bring complete relief. Heroin has been recommended and used for the same purpose; however, this is one of our tricky drugs and, as codeine gives all the good effects and with but few of the dangers of any untoward effect, I prefer the latter.

"Tight Coughs"

In bronchial affections, we very frequently find the "tight" cough, the one which the patient says is "tearing him to pieces." Here, we have an indication for some agent that will favor greater exudation; and the alkaloid emetine, or the concentration of ipecac, emetoid, either alone or with ammonium chloride or carbonate, will give marked relief in the majority of instances. But these drugs should be administered in connection with those which will bring about a circulatory equilibrium, so that the congestion may be allayed. In fact, the drugs acting in this way upon the blood flow act as synergists to those having a local effect.

Look to the Bowels

It goes without saying that the bowels should have attention—considerable—in the treatment of all of our winter conditions. It happens very frequently that an overloaded alimentary canal has much to do with the occurrence of diseases of the air-passages. I have seen pneumonia, bronchitis, and other congestions or inflammations of the air-passages following the feast. In practically all of these conditions, the bowel should be unloaded as completely as possible, as the initial therapeutic measure, and should subsequently be kept active and clear. I do not mean by this that we should purge our patient to the point of exhaustion from the beginning to the end of the disease, but no intestinal stasis should be allowed. Initially, it will do no harm to purge the patient thoroughly—even a compound cathartic pill, or two, will not be harmful. Subsequently a daily dose of saline laxative sufficient to clear the bowel of debris will suffice.

As there undoubtedly are toxins being thrown into the circulation from this site—the ideas of others to the contrary notwithstanding—I believe it is well to see to it that the bowel is kept as clear as possible of all germs that will be productive of such toxic materials. For such purpose, one may employ the sulphocarbolates or a culture of the Bulgarian lactic-acid bacillus. I have noticed that with the bowel clean the agents used to meet the various indications are more effective, and that regardless of the fact that there may or may not be liberation of toxins from the gut. It must be remembered that the lactic-acid bacillus must not be employed in conjunction with the sulphocarbolates, as the latter will destroy the former as quickly as it does other germ-life. The sulphocarbolate should be used until such time as the bowel discharges are normal in consistency, odor, and otherwise, and then be followed by the lactic-acid bacillus.

I have no reason to believe that I have mentioned even a half of the remedies which may be used with good results in the treatment of winter disorders, but those listed are the primary ones—the ones which will pave the way for others. In all infections, we need the phagocytes, and, if a leukocytosis is not present, it should be induced through the use of nuclein. We also need a general antiseptic, and calcium sulphide, pushed to full effect, fills the indication. And then, in certain infections, the bacterial vaccines or bacterins seem to have a marked effect in the restoration to normal, through raising the opsonic index and further increasing phagocytosis; and they should be employed where the infecting agent is known and identified. But never should full dependence be placed upon these agents or the drugs otherwise indicated be omitted. One acts as a helper to the other, and every remedy of known value should be employed.

Meet the Indications!

If the indications are met squarely, it will be found that less of all drugs than usually is employed will be needed. By combating the higher temperatures with aconitine or veratrine, alone or in combinations such as are mentioned above, and that early, many of the winter conditions will yield to treatment early. In fact, the earlier a case is seen and the more nearly the indications are met, the sooner will the normal be restored. And this holds good in all conditions, whether in winter or in summer. Halfway measures, with hit or miss drugs, will rarely, if ever, bring the desired results.

The patient, and not the disease as an entity, must be studied, and the sooner we conclude to bring our guns to train upon the direct mark, the sooner shall we get results.

Know your physiologic chemistry, your pathology, and the drugs that will correct the evils, and you will have greater faith in therapeutic agents. Strike at the thing presenting itself; and that regardless of your disease as an entity, and you will accomplish much. If necessary, change your remedies every time you see your patient, just so you give him that which is indicated at the moment. Tell the patient and his family what disease he may be suffering from, but never treat that particular disease as a thing or a whole—that is, if you would be successful and not become a therapeutic nihilist. You have no specifics for diseases, as entities, but you do have them for the various manifestations coming up at various times during the course of such conditions.

An Old Doctor's Life Story

An Autobiography

By Robert Gray, M. D., Pichucalco, Mexico

EDITORIAL NOTE.—This is the ninth instalment of Doctor Gray's autobiography. At the age of eighty-six (we have just received a birthday letter from the Doctor) he is giving the readers of "Clinical Medicine" this intimate record of his romantic and adventurous life, mainly spent in struggling with deadly disease in the tropical jungles of southern Mexico. We are pleased to announce that this autobiography will be continued through a large portion of 1916.

[*Continued from page 1018, November issue.*]

THE last instalment of this series concluded with these words: "Our great altruistic pretensions are, the promotion of health and long life, and I begin to hope that I have about redeemed my pledge by the part I have contributed toward this humane endeavor." Let me devote a few moments to this phase of modern medical history.

The Aspirations of Modern Medicine

The whole trend of medical aspiration of recent time has been to extirpate disease—the prime auxiliary to the lengthening of the days of one's life. With uniformity of health, unimpaired by vice of whatever type, the lives of those who attain the adult state would have a fair chance to reach at least four- or five-score years; and when we shall have learned a little more the frightful mortality of the young will be checked. My own long life of restless activity may be attributed to inheritance from a long-lived race, as well as to freedom from vice or even shunning of liquors and tobacco. Still, somewhat of that family-legacy might naturally be esteemed as discounted by the wear and tear of a life of sixty years spent on a new plantation, in the Civil War, and in this fearful tropical practice; yet, for all that, I am by no means fagged out, and do not believe that any young doctor within a hundred miles of me down here could follow me for a month during a raging epidemic. It seems incredible that I have never been sick for an hour in all that long lapse of time, although exposed to every disease (even cholera) that has scourged Mexico during the past fifty years, save the bubonic plague, which depopulated Mazatlan. I do not now recall how many, but there have been several years in which I passed more than a hundred sleepless nights in each of them; and I have gone a whole week and sometimes longer with my clothing wet all the time from rain or sweat. Yet, I have never felt the slightest subsequent inconvenience.

Anticipating, as It Were, Metchnikoff

From my infancy to the present day, I have used clabber-milk whenever there was a possibility to obtain milk (always plentiful here), which had ever been a custom in our family, whether with any special object in view more than that of relishing it I do not know—the only object I ever had, having had no inkling of the inspiration that came to Metchnikoff. In some way, a long while ago, I got the idea that the whey of buttermilk and clabber was a fine nourishing antidote for the summer disorders of infants and little children. I have no shadow of memory how I learned of such merit of the substance, yet, I know positively that it was not the offshoot of a dream or any invention of mine. However, I found these articles so intrinsically useful that I now employ it in the treatment of the diarrheas and dysenteries of children, always obtaining precious helpfulness.

I have turned aside from the direct thread of my story, in order to advert to its predominating feature, *health*, calling milk to my reserve force, because of the prominence

it has recently acquired as an auxiliary strength to sustain senility in active vigor. The clabber is a nutrient of such high grade that I have to suspend its use occasionally, so as not to require the service of an antifat—an element that probably contributes largely to the vigor of old age; milk being our best reconstituent after wasting disease, provided we can avoid the curdling tendency of the milk.

The developments already serviceable and the experimental investigations now in process of research are destined to raise universal health in a degree high above what might seem reasonable anticipation, and much sooner than many of us dream. With the great deadly epidemics and plagues vanquished, coping with the minor enemies of health should become simplified and successful.

But I shall be unable to present any inventions or discoveries, never having ventured further than the field of the art of medicine, seeking the legitimate application of whatever promising substance science offered me to put to the test. There clearly are in the medical realm science, which discovers and develops, and art, which establishes clinical utility; and it is only rarely possible that one man will become proficient in both branches of the profession—extracting and formulating and following up a remedial substance through all the experimental ramifications of its clinical probation. The laboratory tests on animals, both small and large, hardly are guiding indexes to the possibilities in human anatomy. The legitimate clinical value of a substance is found by putting it in combat with deadly virulent or pernicious disease, or with both, as the indications of cases seem to justify. There is sometimes useful help found in what are regarded as specific substances when employed in other diseases; and in practice the dosification is found in discord with the laboratory directions. I have found dosage, in a high degree effective, far removed from the directions or any established rule of practice, by sheer accident, patients taking excessive quantities wilfully or by mistake. But of this later, in due course.

I have been situated more favorably for experimental practice than has usually been the lot of any other American; alone, as I have been, in a vast field of big plantations, with numerous desperately sick peon patients, often in times of fearful epidemic crisis. I was able, after years of constant observation, to prognosticate when a patient had but few hours of life, without extraordinary energy of counteracting influence, which I did not vacillate an instant about calling into requisition, usually saving the situation. Such was a fever peril, there being, in most cases, a temperature of 41.6° C., and the least irritation inevitably provoking the climax of 42° C. of fever temperature.

The vicissitudes of forty years of such practice cannot be recorded in any degree approximating detail, as one year alone, many times, would overreach the space at my disposal; and there really is no necessity for anything more elaborate than approximating indications of experiences other physicians may not have met sufficiently often to establish reliable conclusions.

I adopted the modern medication with an enthusiasm foreign to my custom, having ever been conservative about new departures in medical preparations. But experience confirmed endorsements with giddy precipitation, with no untoward accident with any of the substances, the physiologic action of all of them coming up to the expectation that recommendations had influenced me to entertain.

At first, the people burlesqued those "little pills," as they were termed. And a native physician, a graduate of a high-grade American college, an able practitioner and intimately amiable with me, made fun of the idea that such things could do the work of regular standard galenicals. Yet, finally, he adopted them, in self-defense, and now is as constant in their employment as I am.

Within a few years, the people had more faith in the little pills than in their household gods—"saints," as they are termed—and sent for me beyond my usual territory, sometimes, on extraordinary occasions, saying among their friends: "If the old man can but come in time with those little pills, the patient will not die." And I recall one extreme case, in a young woman; when she was told that there was no hope and that the priest must come, she demanded that they send for me instead, and, when told that she would be dead long ere I could come, she vowed that she could not and would not die till after I arrived.

Some Interesting Experiences

I entered the room about 3 o'clock in the afternoon, a feeble ray of the sun stealing through a rent in the window-curtain floated over her hectic features, contrasting pathetically with her placid marble brow, a naturally beautiful face, clearly admonishing me that fever was burning up her blood. Those

grand black eyes of sorrow were half closed, ominously showing but the whites. A romping little sister boisterously entered the room shouting, "God be praised! the doctor is here." Slowly the woman's lackluster eyes opened and met my scrutinizing gaze. A smile of recognition played over her lips and dimpled chin. Then she closed her eyes fully, as if contented, seeming to be in the trance of natural sleep.

All eyes in the crowded room were upon me. The mother and two sisters stood with hands firmly clasped and tightly pressed over their hearts. I felt that I was enveloped in an awful suspense. "Is there hope?" the mother whispered. "*She* has hope, and that means much," I made reply.

Never before nor ever since that sacred moment has there been in my soul such indomitable purpose to vanquish the angel of death as I felt then and there. And I went to work with one chance in a hundred to keep the undertaker from entering the scene before morning.

The disease had developed from the indigestion following a big feast and excessive dancing for several consecutive nights, resulting in rebellious constipation and high fever; the purges she had taken being unable to find exit through the hardened fecal mass wedged from the anus up to the colon. And, with all this, the arterioles were congested and the limbs and extremities cold, while the trunk and head were burning in a fire of 41.5° C.

I put in the limit of heart stimulation immediately, and worked a glass sound deep into the hardened fecal mass; then slowly forced glycerin through the tube, with a powerful hard-rubber syringe, till finally an ounce and a half had entered. Within twenty minutes, the mass was expelled, with an intonation almost equal to that of a gun; and all the gorging at the feast and feeds at the balls and the castor-oil and other purges came streaming into the bed with a force rivaling that of water escaping from a jug turned bottom up. The poor sufferer had to be lifted from the fermenting foul lake into another bed. But, the fever had dropped to 39.7° C.

I now began to give her strychnine arsenate, 1-128 grain, under the aconitine-rule; she being conscious and able, and more than willing, to swallow. The relief was so marked that the wornout family, one by one, fell asleep, in many grotesque postures, and all slept till daybreak. At 2 o'clock a. m., the temperature was normal and the patient sleeping in harmonious contentment with the family. At 7 o'clock in the morning, she was sitting up in the bed, sucking an orange, amid a family jubilee.

A Case of Fecal Poisoning

Another case yet more unique. I was out of my proper tramping-ground, at a big plantation-house, a couple of days. News came in the forenoon that the young son of a wealthy neighbor was dying in the hands of four physicians, who had been called, one after another, in rapid succession, from a nearby town. Late in the afternoon, there came a hurry-call for me. I galloped over, in a quandary as to the motive for desiring my presence. The afflicted father met me a little way from the house and told me that his son was past all hope; that he had an attack of worms, but no purge had acted, not even one drop; and that the doctors had given him up as lost, but suggested calling me. This, I understood, that he might die in my hands.

The four gentlemen were smoking at the shady end of the corridor, far from where I entered the house, their work done. I found that there was yet working-strength in the heart for a few moments; yet, the patient was a well-defined moribund. I turned from the bed abruptly and confronted the stricken father and anxious daughter, a queenly girl, yet, more self-possessed than her sire.

"Is he dying? Save him, and $10,000 is yours," she blurted out almost hysterically.

"Do not talk absurdly, muchacha, but hasten and bring me two liters or more of hot water," was my answer.

In a trice the girl came running with a pitcher filled with water boiling on the fire. I saw the bottle of castor-oil from which the boy had been dosed. I flung about a liter and a half of the water into a basin and into that enough castor-oil to cool it sufficiently so as not to scald; I pushed the glass sound up the rectum as far as I could in haste and pumped the water and oil into him with a powerful bulb-syringe; finding resistance at first, but soon it entered rapidly.

In thirty minutes, the flood-gates gave way, and the mass of green fruits, that resulted in costiveness and congestion, acute indigestion, and the worm-medicine and purges and all were quickly deposited on the bed. The patient yawned. In an hour, he was sitting up in the bed playing with his little brothers, forgetful of the contortions he had passed through.

I was pressed to sup with the four confreres, who were ignorant of the proceedings,

more than that they had seen the patient at play in the bed. They were all bright men, but had diagnosed worms, because of positive worm-symptoms and the statement of the family that it was an attack of worms. The doctors assured me that I had performed a miracle, entirely out of the medical province. I then assured them that I was almost daily treating like cases among the peon tots and the Chimule Indians on the big plantations where most of my work was done; these attacks resulting from eating crude rice, unhulled, and the hull of cacao-fruit and other trash. These children almost invariably were being treated for worms; that I saw at a glance, with the worm-remedy not yet removed from the room, that they had been misled and had treated the boy for worms, on the apparent symptoms and the report of the family. I then told them the simple and quick salvation I employed.

I think it might be as well to state here the treatment I applied to the Indian laborers who came from work in the evening, doubled with cramps and colics, having eaten their fills of trash during the day. They were employed on big American rubber-plantations, whose people I attended. I kept a solution of apomorphine ready-prepared, so that an ounce contained 1-4 grain. And when they came in thus ill, I gave them an ounce by rectum; and they had immediate relief in the active emesis that followed, as effective as the standard hypodermics. And I had treated half a dozen, more or less, in the time required to prepare the hypodermic for one. I never treated the same man twice for that imprudence. They always were new Indians from the mountains.

H-M-C as an Ally

I had another interesting case, this being an aristocratic young woman who had ingested half a dozen purges, without the slightest result. I told the mother to bring hot water for an indispensable enema.

"Before that, death for me!" exclaimed the sufferer, in her excruciating agony.

Then, not the least nonplussed, I told her I must give her something to calm the pain she could not endure through the night.

"That, yes," she blurted out.

I gave her the limit of H-M-C anesthesia. In less than an hour, she seemed to sleep as innocently as an infant. I then told the mother to bring the water.

"But she will wake and fight like a tiger," the mother said.

I told her to have no fears. In less than an hour, the girl was almost swimming in a lake of filth.

"What shall we do?" enquired the mother.

"Clean up. Change the bedding and the clothing of the patient," was my advice.

I had no means of guessing just when she passed from under the subtle influence of the magic triad, but she softly fell from that into the tranquilizing arms of Morpheus. She had been so exhausted by sleepless torture that refreshing restfulness held her securely entranced. When she awoke, her room was full of early morning sunshine and fresh flowers; and she said to me, suavely smiling: "What precious medicine was that you gave me? I have slept serenely all night and am perfectly well. I am as hungry as a wolf."

I had cautioned the mother never to hint the deception practiced on her daughter.

One has to resort to any crook or turn that may help the patient, down here amid the dearth of what you all possess in plethoric superfluity. I have vaccinated many a person after stealthily securing the auxiliary of anesthesia, and performed other trivial little things, even so small as extracting a thorn.

All of you who are not surgical fanatics know that there are many small operations performed, under bluster and flurry, which are absolutely unnecessary. I have done very little aristocratic practice in all my time; yet, where I did such spasmodic work, the women told heir women friends that they liked me, because I took an interest in their trivial afflictions without forever insisting that it was imperative to cut them. And, I imagine, it were as well for suffering humanity that there were more bloodless surgery than exists in this sanguinary age. Yet, I am for surgery, first, last and all the time, whenever there is no other remedy; but I have recourse to the knife only as the last resort.

(*To be continued.*)

True Specifics

With Special Reference to the Treatment of Senility

By William F. Waugh, A. M., M. D., Chicago and Muskegon

THE work of the therapeutist of the future, the work that is the duty of the therapeutist of today, is to advance the development of remedial specifics. In no other way can we rid ourselves of the uncertainty that has paralyzed our efforts in the past and attain anything like scientific precision in directing our remedies.

Physiology has developed to such a point that we can, in most instances, detect the functional disorder and in many of them determine the cause. The removal of an actively operating cause is our first therapeutic duty; but, in many instances, this does not repair the damage or even stop the morbid processes that have been set in operation. "Remove the cause" has been a sort of fetish; but the absurdity of making this a universal rule, was aptly illustrated by a smart "co-ed," who gave it as the treatment of the vomiting of pregnancy!

Pathology has revealed to us the nature and extent of lesions and in some conditions that of functional aberrations; and, as this science is developed, we may approximate certainty in our chief or first task, namely, that of determining the best point for therapeutic attack. That this by no means is a matter of course, that even as a whole the profession may mistake it, may be seen in the universal belief that the biliary calculus is the point for attack, instead of the cholecystitis and cholangitis that render the presence of the stone objectionable.

The Search for Therapeutic Weapons

When the point for therapeutic attack has been determined, we proceed to look over our armory for the suitable weapons.

For such specific purpose, we may select specific weapons for one of two purposes: either to combat and beat down the disease, considering it a pathologic entity, or to enable us to attack the dominant factors, considering the malady, as described in our nosology, simply an assemblage of symptoms grouped under its accepted appellation for the sake of convenience.

As coming under the first view, we cite the germ-diseases—a large and rapidly increasing group, since many affections once considered general now are known to be caused by specific microorganisms. And here is the proper field for the vaccines, antitoxins, bacterins, opsonins, hormones, agents with which such brilliant work is being done today. In our enthusiastic admiration for these remedies, however, we must not lose sight of the fact that their field must be limited and that our tendency is, ever to push a thing far beyond its legitimate limits. Try to fix these limits, but keep a cool head, and do not jump clear over the hedge into the slough beyond it. It is this that has relegated numerous deserving remedies into unmerited oblivion.

The great body of diseases is not of the specific kind, and the names affixed to them, I have said, simply are convenient designations for certain symptom-complexes that possess no pathologic or etiologic unity. We do not have one germ that induces endocarditis; another one that engenders myocarditis; a third, pericarditis; and still others, pleuritis, pneumonitis, mediastinal lymphadenitis, besides various other anatomic structural inflammations. Rather, we may find a disorder, lit up on one of the surfaces of the heart, that may or may not extend, in varying degrees, to the neighboring structures.

The Ailing Bladder, and Remedies Therefor

A better example is presented by the bladder. Setting aside the infections and mechanical lesions, we find, as a man grows older, that he may suffer a gradual loss of power of the sphincter or of the detrusor, or of both. In others, there may develop irritability of either or both those structures. We ought to have at our command agents that increase and others that will diminish the irritability or the power of these functions. Have we?

Gelseminine is the sedative, *par excellence*, for the bladder, especially for the detrusor muscle. This alkaloid is a safe remedy and its continued use does not ulteriorly bring about any perils in its wake. In that excessive irritability manifested in chordee, gelseminine is the most powerful agent known with which to reduce the inflamed tract to

quietude and secure grateful rest for the rebellious organ.

Arbutin is a slowly acting remedy, but the most potent in our possession for combating vesic catarrh. Even in those of old standing, the result of gonorrhea, the powers of this valuable glucoside are far greater than most practicians surmise. The difficulty with them (not with *it*) is, that they fail to appreciate the length of time needed for the drug to develop its curative effects. Arbutin is a remedy to be administered for a period of months, running into years. It slowly influences the diseased tissues toward health, traveling back the road which they passed from normal to disease. How can any one expect a cystitis that has endured for years, with the gonococcus still present, to be cured within a few weeks? Nature does not act along surgical lines; rather it proceeds on those of the agriculturist, who prepares his soil, plants his seed, then awaits the rains and the sunshine to bring his labors to fruition in the ripening harvest.

Arbutin should be given in increasing doses in these old, inveterate conditions; even up to 15 grains, thrice daily, of the pure glucoside. Ordinarily a dosage of from as little as 1 grain up to 7 grains a day suffices.

The Vesical Tonics

When we come to the vesical tonics, the case is different. Probably the first remedy one thinks of here is cantharides. This is a direct irritant. In very small doses, Spanish fly tones the vesical sphincter, possibly also the detrusor, although of the latter I am not sure. But, it is also an irritant of the entire urinary tract, including the renal cells. In larger doses, the irritation approximates that produced in the skin by a fly-blister, the cells lining the urinary ways being loosened and destroyed, as is the epithelium in the other instance. I can not but look upon this as a very dangerous remedy, in whatever dose; nor am I aware of any therapeutic action it possesses, except the local irritation produced. Moreover, any beneficial effect that it exerts must be temporary, and in no sense curative; and I see no good reason for inducing a pathologic irritation lasting for some hours or even days, by which time the effect is over. Then the doses must be repeated and probably increased—and all this time the renal cells are suffering damage. The safe use of cantharides internally demands a nicety, a caution that is all too rare with the average practician. In my view, there is no place for the internal employment of cantharides in modern medicine.

Strychnine the Vitalizer

Strychnine? Surely! That wonderful vitalizer stimulates every function of the body, including that of inhibition. But, why stimulate all, when only one needs to be? Unnecessary stimulation is an evil in itself and may lead to other disarrangements as undesirable as that which we seek to relieve. Besides, when you have used your strychnine, what have you left for any emergency arising? You have played your ace and are helpless. Better use your smaller trumps as long as they take the tricks. *Nota bene*—if my metaphors are unintelligible to any reader, I refer him to the textbook of Professor Hoyle.

When the sphincter needs tone, we have a good remedy in thuja—5 to 10 drops of the "specific medicine" three times a day. This is useful for leaky bladders, where the will is necessarily invoked to restrain the flow of the urine, the involuntary restraint being weakened. It has proved effective, in my hands, in either sex. I am not sure as to its action in long-continued use, as it possibly contains a renal irritant—and I feel exceedingly anxious regarding all agents that irritate those cells.

We still require a specific tonic for the vesical detrusor. Take a common case: An aging man finds the expulsive force of his bladder steadily declining. The formerly powerfully expelled stream dwindles to a tedious dribble. The involuntary sphincter also weakens, although to a less extent. There is no disease, no catarrh, no enlarged prostate gland; the urine is normal. It is easy to dismiss the case cavalierly, telling ourselves that this is the necessary concomitant of advancing years, and thus letting the man drift into catheter-life without lifting a finger to save him or making any effort to delay the progress of the malady. Are we as helpless as that? *Must* we let such patient go to the advertisers who claim ability to give aid, and to whom this man surely will resort if we weakly confess our impotence? Better to make some sort of an effort, if only to keep him from such a peril.

Metchnikoff is the one man, in recent years, who has had the courage to assert that age is relative and death postponable. Whatever there may be in his suggestion of the bacillus bulgaricus (and it has not been disproved yet), he has given us reason to believe that, by taking thought and utilizing known

facts, we may at least conserve youth to its possible limit, and ward off that molecular death that progresses for years, many or few, before the final extinction of consciousness.

Dogwood as a Vesical Tonic

With considerable diffidence, I put forward the suggestion that in the dogwood (cornus florida) we possibly may find the agent that specifically tones the vesical detrusor. My attention was directed to this remedy after observing that in several of my patients there was associated with this vesic debility some feebleness of erection. For the latter condition, I have for years employed cornus florida with marked benefit; and it occurred to me that, when these two pathologic conditions were so intimately associated, the same remedy ought to prove effective in both. As yet my cases are too few for making public, and the nature of the trouble is such that the patients would seriously object to anything that might direct attention to them personally; yet, the results have been so encouraging and so uniform that I feel justified in recommending a trial of the remedy.

Dogwood-bark is one more of those slowly acting drugs, and I have directed that it be taken for a month at least in each of my cases. One need not despair if the improvement takes nearly that length of time to manifest itself. The remedy is strictly a tonic, not a stimulant (that is, it does not arouse sexual desire), but the tonic effect seems to persist for quite a time after it has been discontinued. It has no action as an aphrodisiac. I have not observed any objectionable effects, immediate or remote.

The dose? I have employed the "concentration" (cornuoid—formerly known as cornin), giving 7 granules, of 1-6 grain each, three times a day. I have not associated any other remedy with it, but have kept the bowels clear and clean, thus preventing that autotoxemia blamed by Metchnikoff for old age. However, I have avoided aloes and podophyllin, each of which has been credited with a tonic action upon the erectile tissues, and have employed, instead, saline laxatives alone, besides occasionally an enema.

It would be interesting to ascertain the action of the reputed aphrodisiacs (phosphorus, damiana, and the rest) upon the vesic detrusor; especially so of the amorphous phosphorus recommended by Professor Nascher. These drugs acquired some repute in the days when the action of remedies was not studied, further than the assertion that they were "good for impotence." Now we ask just what a drug does, and how; what functions it affects, and how; and it may be that some one or other of the factors of this group of senile maladies may be favorably met by them. At any rate, this is the best road open to those who desire to see progress in drug-therapeutics.

Penetrating Wounds of the Eye

By Thomas G. Atkinson, M. D., L. R. C. P. (London), Chicago, Illinois

SOONER or later, every practitioner runs against a case of penetrating injury of the eyeball—a gunshot wound, a blow from a jagged stone, a stab with a sharp stick, or some other form of edged object of violence that lays open the eyeball and reaches the internal structures. No injury of the eye is more likely to occur than this one. When it does happen, it is much more serious than the same degree of injury to almost any other part of the body; and it calls for prompt and intelligent treatment if the eye itself, to say nothing of the vision, is to be saved: yet, of all the emergencies that the practitioner is called upon to meet, this one finds him most unprepared and nonplussed.

The very first consideration in such cases is that of infection. Of course, every penetrating wound of the eye constitutes a potential infection; and the eye, for various reasons, is exceedingly susceptible of becoming infected. Therefore it is to be assumed that the eye *is* infected, and, hence, prompt measures are to be taken to combat this assumed infection. At the same time, it is also to be assumed that the eye *is not* infected, and equally careful measures are to be adopted to prevent its becoming infected. Both of these precautions are absolutely imperative, and to neglect them constitutes criminal negligence.

First-Aid Measures

First aid to such patients, therefore—aside from handling the injured eye as little as possible—consists in irrigating it gently but

thoroughly with a 1 : 5000 solution of mercury bichloride (this being done by gently drawing down the lower lid and injecting the solution from an eye-dropper, by way of the canthus and the conjunctival sac), placing a sterile gauze compress over the closed eyelid, and then bandaging it lightly; postponing all further treatment until the patient can be removed to proper aseptic quarters, preferably to a hospital.

This should be the next step, and should be carried out with the utmost care. The patient must not sit or stand upright, far less be permitted to walk or to ride in a car to the place of his reception. We must assume that the injury has seriously compromised or is in danger of seriously compromising the relations of the delicate internal structures of the eye, perhaps, even, the contents of the eyeball are in momentary danger of evacuation, and thus the upright posture or the jolt of walking or riding may precipitate an irreparable mischief. Hence, he should be transported, gently and carefully, by means of a stretcher or an ambulance, lying on his back. It might be added, in passing, that this supine posture is to be maintained until the eye has received whatever surgical attention may prove necessary and is well on the way to healing.

Everything else being equal, the sooner you get at the treatment of the eye, the better the chances of success. By success, I mean the maximum preservation of tissue and function; for, I wish to caution the practitioner, right here, against giving the patient or his friends any exaggerated promises as to the ultimate outcome. Penetrating wounds of the eye are *almost never* followed by anything like complete restoration either of structure or of function. Just how much restoration there will be, it is impossible to tell until the eye is well along in the process of recovery. Consequently, you can make no justified promises on this score; while almost certainly you can predict that restoration of the organ will not be complete.

As I have said, the sooner you begin treatment, the better the chances. But, if the probabilities of infection are very great, it is better to wait twenty-four hours, making antiseptic irrigation in the interval, than to risk panophthalmitis by operating upon an infected eye. If infection already is a fact, then it is imperative that you wait for a subsidence of the infection.

Have the patient and yourself prepared, with thorough surgical precautions, before you even undertake an inspection of the injured eye. Have ready at your hand the following equipment:

Drop-light or something equivalent to it,
Magnifying lens,
Eye-speculum,
Small bent forceps (iris-forceps),
Small curved scissors,
Small curved skin-needles and fine silk,
Small flat spatula or probe,
Tepid normal salt solution,
Bichloride solution, 1 : 5000,
Gauze, sponges, eye-droppers, etc.

Cocaine the eye thoroughly with a 5-percent solution, using the same technic that was recommended above for irrigation, that is, drawing down the lower lid and putting the solution into the sac.

First, gently draw apart the upper and lower lids—taking care to exercise your pressure and traction, not upon the eyeball, but upon the bones of the orbit—and ascertain whether the eyeball is collapsed or not. Slight losses of vitreous are not of serious import; but, a considerable loss, sufficient to cause collapse of the globe, is practically hopeless. If you find the globe in marked collapse, you will be obliged eventually to enucleate the eyeball or else to have it enucleated by an eye-surgeon. This, of course, need not, and, indeed, should not be done at once. The thing for you to do in such a case, therefore, is, to irrigate the eye with the bichloride-solution, dress it again with a sterile gauze pad and bandage, then send the patient back to bed, to await enucleation. Occasionally, in the interval, the vitreous will so reform as to render enucleation unnecessary; but not often. I do not recommend the general practitioner to undertake the enucleation, because the removal of an already ruptured eyeball is rather a difficult procedure for inexperienced hands.

If, however, the globe is not collapsed, proceed to a thorough inspection of the eye, first under no special illumination. Ascertain where the laceration and penetration is. In the majority of cases, this occurs at the junction of the sclera and the cornea, because there is the line of least resistance. See whether the iris is protruding from the wound. Find out whether there are any particles of metal, glass, stone, or whatever the agent of injury was, embedded in the outer eye.

Next, take the magnifying lens, have an assistant hold the light a little above and to one side of the patient's head and focus the light obliquely upon the cornea and pupil. This will enable you to inspect the anterior

chamber and to ascertain whether the iris is badly damaged and also whether there is any foreign body in the chamber.

If the iris is neither protruding from the wound nor appears to be damaged, and there is nothing extraneous in the chamber, all that you need to do is, to irrigate the eye thoroughly but gently with the bichloride-solution, follow it with normal salt solution, close the eye, bandage it as before, and leave it to heal.

If, however, the iris is protruding, you will have to attend to it. First irrigating with mercury bichloride, you introduce the eye-speculum, but do not allow it to stretch itself to the full—give it to an assistant to hold so that it exerts no pressure upon the eye. Better, still, if you can manage without a speculum, but that requires adroitness. With the small curved forceps, pick up the iris, pull it (very gently) out of the wound until you are sure that it is quite free from all entanglements, then take the small curved scissors and cut off, at the wound, all that you have pulled out. Cut it through with one sweep of the shears and let the remainder of the iris drop back into the eye. Now take the small flat probe or spatula and, introducing it carefully into the chamber through the wound, gently stroke the iris into proper position. Irrigate the eye again with the bichloride-solution, followed by normal salt solution, instill a few drops of a 1-percent atropine-solution, then bandage as before.

If the wound be a very long and gaping one or if it extend into the sclera, you will have to take a few interrupted stitches with fine silk thread.

After-treatment consists in rest in the recumbent posture, and a fluid diet for a few days. Unless there are signs of infection, the eye should not be disturbed for forty-eight hours. It may then be inspected, a fresh instillation of atropine made and a new bandage put on.

No prognosis can yet be made as to the restoration of vision; for, the condition of the lens cannot yet be seen through the clouded humors, and the clearing up of the anterior chamber is problematical. Daily dressings and instillations of atropine should then be made for a week or ten days, at the end of which time the bandage may be removed and the patient allowed to wear a transparent eye-shield. Or, if his surroundings are satisfactory and the wound is well healed, he may go without anything.

A careful examination of the eye should now be undertaken, in an attempt to arrive at some idea as to the permanent status of the vision. First by oblique illumination (described above) and then by means of the ophthalmoscope, an attempt should be made to ascertain the condition of the crystalline lens, the retina, and so on. Perhaps, however, this task had better be referred to an oculist.

If the general practitioner has faithfully carried out the measures that I have here outlined, he has done his full and intelligent duty in these cases of penetrating eye injury, and whatever the ultimate outcome, he cannot be held responsible for any of the unavoidable residue of disability.

The Letters of Doctor Leonidas Playfair

Addressed to a Young Man Just Entering Practice

By A. H. P. Leuf, M. D., Philadelphia, Pennsylvania

[*Continued from page 1005, November issue.*]

MY DEAR FRIEND: Doctors get sick as do other people, and on these occasions they are (or should be) treated by other physicians; the latter usually exacting no charge, although some of them do. Whether this taking pay is right or not, is an open question with many; still, to me it seems that what is the right practice under such circumstances admits of no difference of opinion. A doctor should not be expected to pay for professional services rendered him by a brother physician, except when thereby put to actual expense—for instance, the payment of railroad-fare or the loss of a half or a whole day, this entailing a corresponding diminution of his regular income. On the other hand, no charge should be made for services that another physician must pay. Do not let a doctor render services for which you are under obligation, unless you send him a proportionate remembrance for his labor.

I knew a physician who had received an injury, concerning which I was consulted, and he entered suit for damages. Then, upon my advice, he consulted a well known specialist, with a view to having him testify for him in court. This surgeon made a single examination, and took a few notes (as is customary under such circumstances) from which to refresh his memory and possibly gain such additional knowledge as might be needed at the trial or in preparation for it. The case was postponed upon two occasions, and finally was settled out of court. Before the specialist even could be called upon by the plaintiff, he sent a bill for $50 for his single examination that had not cost him more than ten minutes of his time. This was so wantonly outrageous a violation of professional courtesy that, when asked by the gentleman what had better be done about it, I suggested that no attention be paid to the claim, but that the doctor making this charge should be reminded in what position his action placed him in the estimation of the plaintiff and his professional friends; and then a reasonable fee should be offered.

Physicians' Fees

On August 2, 1901, Judge Armstrong, of Camden, N. J., tried and adjudicated the subjoined case, as follows: A woman had been attended by Doctor Godfrey for four years, for which he rendered, as preferred creditor, a bill for $349. The woman had been afflicted with Bright's disease and had been sent by the Doctor to Bedford Springs, as a part of her treatment. While at the springs, she was obliged to call in another physician, and she finally died at that place. Doctor Godfrey's bill was contested, on the ground that it was not preferred; that he could not have been her attendant in her last illness; but that, on the other hand, the doctor at Bedford Springs had attended her. The court held that the treatment of the doctor at Bedford Springs must be considered auxiliary to that of Doctor Godfrey, the same as that of a physician called to attend another's consumptive patient in an attack of hemorrhage that ended fatally before the regular attendant could arrive; that Doctor Godfrey's general treatment, it was proper to assume, was being adhered to so long as he had not been formally dismissed, and there was nothing to show that he had been; that her trip to Bedford Springs was part of her treatment by him, and that this carried with it such auxiliary treatment by any local physician needed at the place whom she might call in to treat her, in the place of Doctor Godfrey, because of the latter's distance from her place of abode. This judgment seems perfectly just, and should be remembered.

After the death of the late H. M. Curry (a partner in the Carnegie Steel Company), his attending physician, Dr. J. O. Flower, presented to the estate a bill for $5243 for professional services rendered to the deceased. It was for a period of five months, and included a trip to Atlantic City, consuming twenty-one days. His rate of charges was, $25 per visit at the house, and $100 per day while at Atlantic City. Experts called to substantiate this claim agreed that the amount was not excessive. The Doctor maintained that his treatment had prolonged Mr. Curry's life sufficiently to let him make at least an additional million dollars, which seemed to him an added reason why he should rate his services as he did, rather than at a lower figure. His claim was allowed.

Legal Decisions Concerning Doctors' Prescriptions

According to Dr. J. W. Jervey, the courts of the country have distinctly settled the following eight points:

"1. The patient has no legal right to demand a written prescription or written directions from the physician.

"2. It is right and wise that the druggist demand and procure from the physician his written orders for the compounding of prescriptions.

"3. The physician has the undoubted right to designate what pharmacist shall fill his prescriptions.

"4. The written prescription is simply an order from physician to pharmacist. It is, through courtesy and by virtue of custom and convenience, handed to the patient for transmission, but the latter has not, at any time, the slightest right of possession in the instrument.

"5. The druggist has at least the right of permanent guardianship (perhaps of outright possession) of the prescription, and he must keep it on file for reference and for any form of proper investigation.

"6. There can be no right, extenuation or excuse for a copy of a prescription, with physician's name attached, to be taken by druggist, patient or anyone else without the authority of the physician.

"7. The careful physician should invariably retain a carbon copy of every prescription he writes.

"8. If a druggist refills a prescription without the order of the physician who wrote it, he does so on his own responsibility, and he has no legal or moral right to leave or place the physician's name on the container."

Telephone Service

Medical advice given by a physician over the telephone from his office should be charged for as an office-call, while that which is given in the same way from a telephone that can be reached by the physician only by leaving his house should be charged for as a house-call. Supplementary instructions overlooked at the time of the preceding consideration of the case should not be charged for, nor anything else that is merely supplementary to the last visit, and which should have been said at the time. Additional advice given by telephone at the request of the patient or his caretakers, and made necessary through no fault of the physician, should be charged for as usual.

Is Ignorance on the Part of Curer and Curee Sure Road to Success?

The following quotation from a professional friend and former student of mine, in his sixth year of practice in a New Jersey town, is a true, but by no means gratifying, presentation of one of the great essentials to socalled success in medical practice: "I have come to the conclusion," he writes, "that it is necessary to know but little to practice medicine, and succeed financially. It is not what we know, it is what our patients think we know. A pleasant manner and diplomacy, and a little paregoric or calomel, and success is sure. I have learned much in the last five years. I have learned to treat the most common disease of the people—ignorance. Treat a whole family at once for the above disease, get their money, and leave them satisfied."

Certificates of Death for Insurance Companies

One of the greatest impositions practiced by large corporations upon physicians is that of insurance companies in their requesting physicians to fill in and sign, gratis, one of their usual certificates of death. It is rather a remarkable fact that this is not vigorously resented, and that no concerted movement has been made by organized bodies of medical men to oppose such wanton disregard of the professional obligation of the physician to his patient, and of his right to compensation for trouble and valuable service in no way part of his duty to the patient.

These certificates usually require the physician to state the actual and apparent age of the deceased, the nature of the illness, its duration, the times of his attendance, and whether the patient was afflicted with any other disease, an affirmative answer to which would very likely have the effect of canceling the obligation of the policy, particularly if the patient had been afflicted with the incipient stages of disease, such as consumption, at the time he was insured.

These questions constitute invasions of the sanctity of the privileged relation of doctor and patient. It is a wanton disregard of the physician's rights and duty. It can have no other object than that of possibly discovering some excuse for the nonpayment or scaling of insurance due, on the ground of misrepresentation by the insured, which it is hoped may be discovered in that manner. I will also add that the company obligates itself, in every contract of insurance, to pay the amount due upon receipt of proof of death, provided there is no violation of the agreement of insurance on the part of the insured and that the premiums due have been paid.

The proof of death is a matter of record with the proper public functionary with whom certificates of death are filed, in which the cause of death is also stated. That is adequate and sufficient to compel the company to pay the amount due. Physicians should not lend themselves to being used as talebearers or spies for insurance companies.

Furthermore, it is an aggravation to be expected to submit to this imposition without compensation. The custom probably has originated with industrial insurance companies, which insure, at a 5- or 10-cent weekly rate, in a sufficient sum to about cover funeral expenses. Deaths here frequently occur among a class of people who are not very reliable, and the risks are so carelessly taken, under a loose arrangement, that the companies may quite easily be imposed upon. Hence, they take the additional precaution of having the doctor's testimony added to their other evidence as a guarantee that everything is proper. Still, it is no part of the duty of the physician to help make up deficiencies in the management of insurance companies, especially without adequate compensation, and more particularly when this requires an abuse of professional confidence that we should not be guilty of even for any amount of compensation.

Contract-Practice

You will hear much that is favorable and much that is unfavorable about contract-

practice. The thing implies an agreement to practice your profession at reduced rates under specified conditions. There can be no question as to the right of any doctor to do this, unless he is bound to the contrary by special stipulations. If he is a member of a medical society having an established fee-bill, and to which he has agreed expressly or by implication, he violates his obligation to his fellow members if he undertakes to do work for less than the agreed rate. He will often be compelled to work for reduced pay. A long illness or a succession of shorter ones in a poor family can never be paid for in full. It is often advisable for him to make a reduction, in order to get anything at all, for few people are so honest as to beggar themselves in paying a bill even though they may be credited with being dishonest because of nonpayment of a part.

A working-man with a large family and a very limited income may ask you to become his family physician, upon the condition that, should your bill amount to more than a specified sum for the year, you will discount it in increasing ratio according to its size. Such a contract is merely anticipatory of what you would necessarily be obliged to do, as in the preceding instance.

I see no objection to either of these practices, especially the latter, provided the agreement is honestly made and kept. The doctor who permits himself to be imposed upon is foolish.

Contracts with Individuals

You may make a definite contract with an individual to render professional services at a stipulated sum per annum, obligating yourself to see him in your office at regular intervals for examination and advice, even though he remain perfectly well. This is a proper-enough contract, if neither party is unfair to the other. The advantage of such an arrangement to the patient is, that it assures to him the continued interest of a competent physician in keeping him in the best possible health during the contract-period, or that it secures to him all the medical attention he may require during that time, should he get sick. After weighing every possible consideration, he determines what would be an advantageous contract, the doctor being wholly within his right, if they can agree.

I see no objections to contracts of this kind on the part of the doctor, if they are made in good faith and with proper judgment. Similar agreements may be made for an entire family, and would, on the layman's side, be wisely preferred by anyone of limited income, methodical habit, and honest dealings. It would enable such a person to know in advance the cost of sickness. He (or she) would, by this means, have the doctor insure him and his family either good health or medical attendance during illness. If the doctor safeguards his own interests in such a contract, it is entirely within his right to make it, even if he belongs to a medical society having a fee-bill. But it would require a fair estimate of the family's probable need for medical attention during the contract-period, together with its value according to the prevailing rate. Should this aggregate much more than the head of the family can afford to pay, and the doctor were willing—had the services already been rendered and the bill presented—to discount it proportionately and still continue his services thereafter with a willingness to discount future bills in the same way if they were too large to be paid in full, then, I say, he has a right to make such a contract with these points taken into consideration.

Contracts with Beneficiary Societies

There is another contract that may be made with a socalled beneficiary society. The usual method consists in receiving quarterly (or at some other regular period agreed upon), a certain *per capita* sum for every member of the organization, in return for which you agree to render necessary medical services to any member of the body, either at your office or his home.

As to whether this contract is a proper one or not, depends upon several circumstances. It is not proper if a fee-bill has been adopted by the medical society of which the doctor is a member, for the *per capita* payments by these associations usually are so small that they aggregate only a fraction of what a doctor's regular fees would be for the same services. Should he not be bound by any fee-bill, it becomes a question of policy whether such a contract is advisable or not. There arise at once the two questions of the welfare of the profession at large and of that of the individual physician. He may benefit himself temporarily if he is in financial distress, though he injure the profession at large. Ultimately he is sure to injure himself individually, for few men are valued above their own estimate.

Another view of this matter is, that the usual charge for a call in the office or at the house is at retail, and that the doctor has the right, established by precedent in business,

to reduce his charges to what might be called a wholesale basis, upon condition that he receive a large block of work. This is putting compensation upon a mercantile basis, and is against the established custom of the profession and the usual conception of the status of medical practice.

But, after all, is not this matter of compensation an adjustment of values, an arrangement, a balancing between supply and demand? The question arises, whether, under the stress of modern competition, the honest wage-earner, in seeking definitely to secure medical services for himself at a minimum figure, to be paid regularly to the doctor, does not net the latter as much as if he made call upon call and for which subsequently he either received no compensation whatever or only a small part payment, and this not because of the dishonesty of his patient, but because of his poverty?

Thomas Carlyle long ago well suggested that all things are right because they are, being justified by their existence. Much of the opposition to the society-contract system is due to the objectors being unable to make such arrangements themselves. An assurance of $300 per year, in return for a certain amount of perfunctory work that can be done in a small percentage of the doctor's time, is a godsend to many a beginner.

Inasmuch as I have advised young men to render services for anything or for nothing, until they become too busy to do so, provided they render them gratis for the worthy and impoverished only, so can I see no objection to their making agreements with beneficiary societies to do certain limited work *en bloc* for a relatively small consideration. It is a bird in the hand that is worth the proverbial two, three, four in the bush—that being about the proportionate ratio of pay received as compared with the standard.

The fact to be considered is, that most of this work for beneficiary societies is done in the office, because men cannot afford to get sick and lose wages. They know that they can see the doctor at once without charge, and, hence, usually call in time to avoid sickness in bed; wherefore their ailments seldom require more than limited attention.

When, however, societies include an entire family in their provisions, the doctor's pay shriveling in consequence to startlingly small proportions—not exceeding from 10 to 20 percent of the ordinary charge—it is an imposition to which no one would submit but a fool, sure soon to gravitate to his proper level. The old man who has been in practice long enough to be doing a paying business, but who, nevertheless, finds himself so impecunious that he deems it to his advantage to take such a position, thereby stamps himself either foolish or incompetent. The best way to counter stupidity of this kind is, to remind patients that doctors are pretty fair judges of their own ability and the value of their services, that those who consult a man of that stamp must abide by the risk they run of being improperly treated, and that, when they come to grief in consequence, it is merely an instance of one fool destroying another.

Another point of difference between individual contracts and beneficiary-society contracts that compels consideration occurs to me. This is, while the agreement with the individual or family considers in each instance all the special conditions, varying proportionately under differing circumstances, that with the society makes a uniform low rate for all alike, regardless of variations in ability to pay. Then, again, it must not be forgotten that the general average pay for a given period—say, one year—may even up these differences. This, too, varies with membership, that in a large city yielding a great divergence in the earning power of members, while those in small industrial or mining districts, where the work and pay is very uniform, shows a much more uniform earning capacity *per capita*. All these things must be considered, and that very carefully, before contracts of this kind are accepted. As a general proposition, they should be avoided.

(*To be continued.*)

LUCKY is he who can get his grapes to market and keep the bloom upon them, who can carry some of the freshness and eagerness and simplicity of youth into his later years, who can have a boy's heart below a man's head.—*John Burroughs.*

What Others are Doing

THE PREVENTION OF PELLAGRA

In the December, 1914, number of CLINICAL MEDICINE (p. 1100), we called attention to the theory advanced by Goldberger of the United States Public Health Service, that pellagra is caused by a poverty-diet, characterized by the consumption of an insufficient quantity of protein. This theory is further developed by this scientist, in conjunction with Waring and Willets, in *Public Health Reports* for October 22, 1915, page 3117.

In order to test the validity of the protein-starvation hypothesis, it was decided to submit to dietetic tests as large a number of individuals as possible at some institution where the disease was endemic. In the article in question, the reports of experience in three of such institutions are submitted, these being two orphanages located at Jackson, Mississippi, and the Georgia State Sanitarium.

In both of the orphanages, pellagra had been recognized every spring for several years. For instance, in the first one—designated as "M. J."—there were 79 cases of the disease during the spring and summer of 1914; while in the second orphanage—designated as "B. J."—there occurred 130 cases of pellagra during the same period. Both institutions were overcrowded, and in both the hygienic and sanitary conditions were unsatisfactory, while the dietary was found to contain a preponderance of carbohydrates. In both of the orphanages, therefore, when these dietetic tests were decided upon, a very decided increase was provided in the proportion of fresh animal and leguminous protein-foods.

In detail, milk and buttermilk were added to the diet, every child being given one or the other at least twice a day. Eggs had not previously been included in the regular diet; the writers, therefore, prescribed at least one egg at the morning meal for every child under 12 years of age. Prior to this year, fresh meat had been served but once a week. Under the writer's direction, the ratio was increased to three or four times a week. Beans and peas, which had been conspicuous in the diet only during the summer and fall, were made an important part of hearly every midday meal at all seasons. The breakfast cereal was changed from grits (a corn food) to oatmeal, with the object of reducing the maize and increasing milk consumption. The corn element in the diet, however, was not entirely eliminated. Cane-syrup, or molasses, was entirely excluded for some weeks. Later, this was allowed, in small amounts, only at three or four evening meals a week. Prior to this time, it had been customary to serve molasses freely at two or three meals each day. This was the essential diet adopted in both orphanages.

The result of this treatment was, that in the orphanage "M. J.," during the present year, and barring recent admissions, pellagra has disappeared entirely. In orphanage "B. J.," in which there were still 105 of the 130 cases of pellagra observed in 1914, only one child has contracted pellagra-symptoms this year. Of the pellagra-patients of 1914, 69 have been continuously under observation for at least a year, and not one has shown any recognizable evidences of a recrudescence of the disease.

The results obtained in the Georgia State Sanitarium have been equally striking. Two wards, each containing about 40 adult pellagrins, have been under the observation of the United States Public Health Service officers.

The diet of the patients in this sanitarium has been modified along virtually the same lines followed in the two Mississippi orphanages. Fresh milk, buttermilk, fresh beef, dried peas and beans, and oatmeal have been added to the dietary, while grits and syrup have been practically excluded. Here, 72 pellagrinous patients (36 colored and 36 white) have been continuously observed from December 31, 1914, to October 1, 1915; and not one of these 72 subjects has presented any recognizable evidence of pellagra this year.

It may be added that the results have been checked up by the observation of "controls," that is, of other patients who have received the previously prevailing diet, and of these

40 percent have presented the usual annual recurrence of pellagra.

ECONOMIC STRESS AS A CAUSE OF PELLAGRA

One of the most interesting papers in the symposium upon pellagra appearing in *Puplic Health Reports* for October 22, 1915, is that by Edgar Sydenstricker, the *Public Health* statistician, who in this paper studies the possible relation of the increased cost of food to the increasing prevalence of pellagra. As he points out, the lower the economic status of the white American family, the greater is the pressure for sacrifice in diet, particularly of animal protein foods, since the latter are the most expensive. This pressure falls more heavily upon American families of the lower classes than it does upon European families or upon European immigrants; studies of the budgets of the latter having shown that they spend a considerably larger proportion of their income for their food and less for other purposes than do Americans. The latter are inclined to make sacrifices in diet in order to gratify less-important wants and desires.

Another factor to be reckoned with is, the low wage paid in the South, particularly to the industrial population. Sydenstricker shows, for instance, that the average annual income of a southern cotton-mill family is $822, as contrasted with $1022 for the New England cotton-mill families. This difference is accentuated by the fact that, while rents were practically the same in the North and the South, food prices in the industrial localities in the latter section were, as a rule, considerable higher than in the northern states. Also, the foods most readily available in the South were of a distinctly different and lower type than those available in the North. For instance, meat is not produced largely in our southern states and is more expensive there than in similar localities in the North and Middle West.

This latter fact is brought vividly to our attention through data gathered by the United States Bureau of Labor, which demonstrates that in the northern states the average family consumes about 1000 to 1100 pounds of protein, while in the southern states the protein consumption averages only between 700 and 800 pounds. Furthermore, while the consumption of wheat-flour is slightly larger in the South than in the North, southern families consume much larger quantities of corn, cornmeal, rice, molasses and syrups, and very much larger quantities of fats, especially in the form of bacon, salt pork, and ham.

The resulting condition of protein-starvation, we may gather from Sydenstricker's report, is a general one for a large proportion of the population of the southern states, and it has been accentuated during recent years by widespread financial and industrial depression, beginning in the latter part of 1907, and which has continued in varying intensity to the present. One feature of this period is, the falling in the per capita consumption of meat. In 1900, this was 211 pounds; in 1914, it was only 160 pounds. It is possible that this reduced consumption was more decided in the southern states than in those of the North.

Looked at from the point of view presented in the preceding, the etiology of pellagra must be found in widespread economic conditions, rather than in those of a local sanitary and hygienic character. The disease can, presumably, be wiped out by increasing the standards of living, providing we can teach the people how to live correctly.

Before passing final judgment upon the validity of the theories presented by Goldberger and others, we should bear in mind that these men have not covered the entire ground. Even if we admit that an improper diet is the cause of pellagra, we have yet to determine *what are the real factors* in the erroneous diet that is responsible for the disease. This problem is also being considered. Listen, for instance, to Mizell. On the other hand, do not let us come too quickly to the conclusion that the factor of infection can be excluded. That still is to be reckoned with.

ECONOMIC METHODS OF PREVENTING PELLAGRA IN THE SOUTH

The following practical applications are drawn by Goldberger from the study of the diet-problem in connection with pellagra. We quote from *Public Health Reports* for October 22, 1915 (p. 3130). In order to secure suitable modifications of, and improvements in, the diet of the whole population, Goldberger recommends the following:

1. An increase in the diet of fresh animal and leguminous foods, particularly during the late winter and spring. This may be accomplished by (a) ownership of a milch-cow and increase in milk production for home consumption; (b) poultry and egg raising for home consumption; (c) stock raising; (d) diversification and the cultivation of food crops

(including an adequate pea-patch), in order to minimize the disastrous economic effects of a crop failure and to make food cheaper and more readily available; (e) making these foods as accessible as possible in the more or less isolated industrial communities, by providing markets, particularly butcher-shops throughout the year.

2. A reduction in the diet of the carbohydrate (starchy) foods. We should: (a) improve economic conditions, increase wages, reduce unemployment; (b) make the other classes of foods cheap and readily accessible.

PELLAGRA: THE OTHER SIDE OF THE PROTEIN-STARVATION THEORY

Perhaps the most striking fact about pellagra is its rapid spread within recent years. This is strongly emphasized by W. D. Cross (*Tex. Med. News*, Aug., 1915, p. 774). He declares that in 1910 there were fewer cases in the whole state of Texas than there are today in the single county of Navarro. In the entire south-central and eastern portions of the state, great numbers of pellagrins are to be found in every community. This is true of his own county and in his own city of Corsicana, especially in that section of the town that is not provided with a sewerage system. Doctor Cross has observed that in the well-screened, sanitarily kept homes in which sewerage systems have been installed there have occurred very few cases of pellagra, as well as of other kinds of disease.

In 1910, after an investigation, he was able to find only 12 cases of the disease. In the same territory, today, there are not less than 500 recognized cases, and many of the physicians in his county place the number as high as 700 or even 800. Doctor Cross believes that this rapid increase of the disease can be explained only upon the hypothesis that pellagra, like several other hitherto mystifying maladies, is of protozoan origin; and he believes that the virus is transmitted by the bite of an insect. He takes sharp issue with Goldberger, of the Public Health Service, who—as we have shown elsewhere—believes that pellagra is ascribable solely to faulty metabolism, due to an unbalanced dietary.

Cross is convinced that insufficient or improper nourishment cause the disease only through lowering the natural resistance, so that extraneous infectious organisms more readily take possession of the body. "If faulty metabolism causes pellagra," Doctor Cross argues, "why haven't we had pellagra all the time? or is it for the reason that we have recently had faulty metabolism? Why don't we have pellagra in all the states of America? Is it because their diet is scientifically balanced? Why don't we have the disease in all the countries of the earth? Only a very few of the countries of the world have the disease."

Doctor Cross has very little to say regarding the treatment of pellagra, but he favors the use of an arsenate, such as atoxyl or some similar preparation. If the arsenic is used early, he says, the disease can be controlled.

FATS AS A CAUSE OF PELLAGRA

In the preceding articles we have given the conclusions of the officers of the Public Health Service relative to the influence of diet upon the etiology of pellagra. However, these gentlemen fail to explain why it is that a low-protein diet gives rise to this disease, and why a high-protein diet cures it; also, why pellagra prevails in some sections of the country, but is entirely absent in others; why, for instance, it is not met with in the larger cities, where economic pressure produces conditions of chronic semistarvation in thousands of inhabitants.

A reasonable hypothesis, which may serve to clear up these questions, is presented by George C. Mizell in *The Atlanta Journal-Record of Medicine* for August, 1915 (p. 214). Doctor Mizell's theory has already been presented by himself in CLINICAL MEDICINE. Thus, Doctor Mizell believes that the origin of the disease may be ascribed to the habitual excessive consumption of those types of oils that are readily oxidized in the tissues, especially corn-oil. He epitomizes his belief as follows:

(1) The association of corn with pellagra is not a myth; (2) the distinctive constituent of corn is a fat or oil which differs from other oils or fats of the group to which it belongs in the relative proportion of the fatty acids which it contains; (3) all pellagrins for a long time have been ingesting (at meals) excessively of some of these oxidizable fats—the corn-oil being the one most generally consumed; (4) when the consumption of these oils is limited or is excluded, the pellagrous state disappears in the course of time, unless the disease is in a far-advanced stage.

According to these observations of Mizell, therefore, correction of the diet must involve, not merely an increase in the proportion of protein, but also a decrease or complete

exclusion of the oils and fats, and particularly of that to be found in the corn-foods.

Doctor Mizell includes, among his measures, also calcium sulphide in very large amounts in the treatment of these patients, upon the hypothesis that this remedy favors the oxidation of the oils deposited in the body tissues.

Also, in our Miscelleneous Department, see a reference to the pioneer work of Pixley, who *several years ago, in these pages*, showed that protein starvation causes pellagra.

PICRIC ACID IN PELLAGRA

Picric acid is being extensively used in Texas in treating pellagrins. W. T. Wilson, of Navasota, Texas (*Tex. Med. News*, Aug., 1915, p. 781), seems to have been the first (or one of the first) to introduce this remedy, which he declares will restore the entire alimentary canal to its normal condition within a very short time when properly employed.

Doctor Wilson began prescribing picric acid in May, 1914. He was called to see a man who had been severely burned in a powder explosion, and dressed the sores with picric-acid gauze. While in attendance upon this patient, he was called in to a near-by house to treat a demented mulatto girl, whom he found suffering from all the classical symptoms of pellagra. It happened to occur to him to apply some of the picric-acid gauze, which he had with him, to the lesions on the girl's arms and legs; then, thinking that possibly local applications of the same keratogenic remedy to the inflamed mouth mucosa might be of value, he prescribed a 1-2-percent solution of this substance as a gargle, at the same time directing that she swallow 25 drops of a 1-percent solution every three hours. Besides, the girl was put upon a milk and egg diet for ten days.

To the Doctor's surprise, this young pellagrin woman had completely recovered within thirty-five days; her mouth symptoms disappeared in seven days, the intestinal troubles in ten, the mental condition cleared up in twenty-one days, and the skin was normal in twenty-five days.

In his paper, Doctor Wilson is able to report his first 100 cases treated with picric acid, his patients ranging in age from 16 months to 82 years. He has kept full records of every case. He also reports another 100 cases treated by eight other physicians, all of whom also had employed the picric-acid treatment. Of the total number of 200 victims treated, 3 have died, 2 of those of pulmonary tuberculosis and 1 of chronic nephritis. There have been only 8 instances of recurrence of the pellagra among these 200.

One fact that should not be lost sight of is, that, in addition to the picric-acid treatment, the majority of these patients have been placed upon a milk-and-egg diet, which doubtless also had something to do with the improvement.

EMETINE IN PELLAGRA

We already have called attention to the favorable results reported by a number of physicians who are using emetine in the treatment of pellagra. The number of patients thus far treated with this remedy is too small to make positive statements as to its value. However, we wish to call special attention to an article contributed by Doctor Bass, of Knoxville, Tennessee, who is using this remedy and securing excellent results (see p. 1149). We have been promised an extended report from another of our readers regarding the use of this alkaloid, for publication in one of our early issues.

If we were asked to suggest the most important expedients for the treatment of pellagra, we would be inclined to advise the following: (1) a dietary rich in protein (milk, eggs, peas, beans, and fresh meat) and sparing of carbohydrates and fats; (2) thorough saturation with calcium sulphide; (3) thorough cleansing of the alimentary canal, with associated intestinal antiseptics, preferably with the sulphocarbolates; also 1-2 percent pioric acid as a mouth wash and as an application to the eruption; (4) attack upon any parasitic element with hypodermics of emetine hydrochloride—particularly if there is associated pyorrhea; (5) tonic medication with quinine hydrobromide and sodium cocodylate.

It is not to be assumed that all these remedies are indicated in every case.

OPTOCHIN (ETHYLHYDROCUPREINE) IN PNEUMONIA

Two contributors of the *Berliner Klinische Wochenschrift*, G. Rosenow, of Koenigsberg, and A. Peiper, of Stetin (cf. *Muench. Med. Woch.*, 1915, No. 17, p. 585), speak a good word for optochin (ethylhydrocupreine) in the treatment of pneumonia; however, both agree with previous writers that, in order to be of any use, it must be given at the very start—not later than the third day. Properly prescribed, it ensures a rapid and mild course

of the attack, and "seems destined to reduce the mortality rate." Still, failures are recorded, while transitory visual disturbance occasionally will occur.

In view of the interest in ethylhydrocupreine, as a result of the studies in the Rockefeller Institute (see Doctor Biehn's article, this issue), we may "pat ourselves on the back" to the extent of calling attention to brief articles on this substance which appeared in CLINICAL MEDICINE in May, 1913 (p. 424), and February, 1914 (p. 161). In a recent editorial, *The British Medical Journal* (Oct. 9, 1915) expresses regret that optochin is so organotropic (i. e., toxic to the human organism) that its value is conjectural. If it can be used in association with a homogeneous serum (as pointed out by Doctor Biehn) possibly this objection may be overcome.

SALVARSANNATRIUM: IMPROVED SALVARSAN

Insolubility and technical difficulties in preparing for use attaching to the original salvarsan were responsible for the subsequent evolvement of neosalvarsan; a modification indeed greatly superior in these respects, but, unfortunately, at the same time decidedly less potent. To meet the consequent wishes of the profession, Ehrlich himself prevailed upon the Hoechster Farbwerke to undertake further experimentation, and their chemists, after much labor, seem really to have hit upon a tolerably satisfactory compound, one that not alone in no way is inferior to salvarsan in intensity of action and therapeutic value as an antispirochetic, but the getting ready of which for use is extremely simple and well adapted for general practice. However, while these are the preliminary announcements, clinical investigation has not as yet progressed far enough to permit of this new arsenical compound being introduced commercially.

As shown in the title, this modified soluble salvarsan, into which sodium (natrium—Na) enters, has been given the name of salvarsannatrium. A number of expert practitioners have been and are trying it out, among them, Doctor Fabry, who from the very first has been employing Ehrlich's "606" and its succedaneum on an extensive scale at the municipal hospitals of Dortmund (Prussia). In a joint article with Dr. A. Fischer of the dermatologic department, Fabry has made public their observations regarding salvarsannatrium up to May last (*Muench. Med. Woch.*, 1915, No. 18, p. 612), in which he embodies the views as here stated; being extremely well satisfied with the preparation and unreservedly recommending it—with the proviso mentioned.

We shall not at this stage enter into the details presented, referring those personally interested to the original article or its rendition in American publications devoted to this department of practice, but will merely point out a few salient facts.

Salvarsannatrium (bearing the laboratory mark No. 1206 A) is free from hydraldite, and is freely soluble in water, the solution showing an alkaline reaction; however, after some experience, a 0.4-percent salt-solution was given preference. The arsenic content is, roundly, 20 percent, hence, the dosage the same as that of salvarsan; nevertheless, patients were found to bear relatively larger doses well. Thus far the chemical is supplied in tubes containing, respectively, 0.3, 0.45, and 0.6 Gram, these representing single doses. The amount of the solvent was successively decreased, so that at the time of writing a dose of the substance was dissolved in 50 times its weight of vehicle (the bulk of the injection ranging between 150 and 50 Cc.), which is well borne; greater concentration is to be tried. The administration is exclusively by venous infusion, the introduction intramuscularly or subcutaneously being strongly counseled against, the more so since neosalvarsan meets the latter requirement and, under correct technic, does not give rise to necroses.

The clinical phenomena closely parallel those produced by salvarsan, and in the treatment of several hundred patients (more than 1000 injections) the well-known unpleasant side-effects were but rarely observed; while severe disturbances, such as vomiting, impaired consciousness, even death, did not occur, although a few times there was slight nausea or chills some hours after a large dose.

Doctor Fabry (like Ehrlich) places great emphasis upon the injunction never to employ this remedy in ambulant patients, but in their cases to use exclusively neosalvarsan, lest possibly great harm befall. Indeed, it is dangerous to treat, ambulantly, with salvarsan or the new remedy, for example, apoplexy, hemorrhagic optic neuritis, aortic aneurysm and insufficiency.

Finally, the author insists that the combined course of treatment with mercury is just as indispensable for the new preparation as it is in the case of every other arsenical. The author's statements are supported by most

interesting and convincing illustrations from practice.

Among others (besides the foregoing) recently writing in a similar favorable vein about salvarsannatrium, may be mentioned C. Gutmann, of Wiesbaden, who also (*Berlin. Klin. Woch.*, 1915, No. 16) considers it quite equal to old salvarsan, decidedly superior to neosalvarsan, and as marking a great advance in simplified technic.

As an interesting pendant, in one aspect, may here be adduced the statement by Rud. Krefting (of the Royal Hospital), appearing in the *Norsk Magazine for Laegevideskaben* (cf. *M. M. W.*, 1915, No. 17), to the effect that in the last four years he has treated 718 syphilitics, and has been using salvarsan exclusively (a total of 7200 injections). All but 3 were treated ambulantly. Krefting asserts having had just as good results as follow the combined salvarsan-mercury system.

SPECIAL DIAGNOSIS AND VALUATION OF AORTIC-VALVE INSUFFICIENCY

Insufficiency of the aortic valve is not of equal significance, in every instance, in its effect upon the circulation and, consequently, physical capacity; hence, the importance of a definite diagnosis. Whether the condition may virtually be negligible as to the amount of exertion the organism will bear or whether exertion brings a severe circulatory disturbance or even death, is determined by the volume of blood that with each heart beat uselessly fluctuates to and fro between the atrium and the ventricle. This subject was discussed at some length by Doctor Ehret, of the naval hospital at Hamburg, at a meeting of the staff-members held last January (*Muench. Med. Woch.*, 1915, p. 122), who presented the following views:

While the degree of insufficiency can be judged with but little difficulty, the intensity of the diastolic sound central over the sternum is without any significance; for, this sound quite often is very loud in mild cases, but may be nearly inaudible or entirely absent in extremely severe ones. The main stress is to be laid upon stretching of the left ventricle. Next in importance are, the amplitude and rapidity of the pulse, the capillary pulse, and the tonus of the arteries.

Next to be considered is, the nature of the etiologic development, whether conditioned by arteriosclerosis, syphilis, endocarditis (infectiousness), aortic dilatation or trauma. Also one must learn whether the defect is stationary or progressive, examinations to take place at greater intervals; in young persons with a sufficient heart, attention being paid principally to the amplitude of the pulse—if this (of course, always under similar circumstances, and best before they leave the bed) is found to increase, then almost certainly the valvular lesion is growing worse.

PROGNOSIS IN AORTIC-VALVE INSUFFICIENCY, AND DIGITALIS-THERAPY

As to the prognosis in the condition considered in the foregoing paragraph (loc. cit.), Doctor Ehret reminded his hearers that the heart is able to compensate better and more lastingly a lesion of this kind than it can, for example, a mitral stenosis; nevertheless, all in all, the prospects in the former are much worse than in the latter trouble. Then, considering the treatment, he *warns* specifically *against* the *digitalizing* of an *insufficient heart*, the outcome of a defective aortic valve, to the point of marked slowing of the pulse.

For the reason that the diastole constitutes the dangerous factor; namely: by virtue of the defective valve, the aortic pressure rests, during the diastole, upon the ventricle incapable of resisting it, while further, the duration of the diastole partly determines the amount of backward-flowing blood, that is, needless and useless work. But, slowing of the pulse results mainly from a displacement of the diastolic action. These points were illustrated by a number of case-histories.

A DOMESTIC CURE FOR CORNS

Believing that the general doctor's knowledge of cures, especially of the simpler kinds, should be encyclopedic—in order to enable him to enlarge his range of choice under all the varying and often trying circumstances of practice—we venture to present the following domestic, or "popular," method of removing corns without resort to chemicals or surgery; a cure we find highly recommended by the query editor of a German newspaper, after several experiences in his family. It is truly simple, indeed, even though somewhat tedious. Here it is:

Give the foot a prolonged soaking in hot water every evening for several [four or five?] days in succession. After this, every evening, wrap the foot in a broad bandage wrung (not too strongly) out of cold water, and over this wet packing draw large woolen socks. Now thoroughly cover the feet with blanket

and pillow (or go to bed), and leave it thus for some three hours; then the foot is washed off with luke-warm water, well dried, and protected with a light stocking. Lightly anointing with petrolatum is good practice.

The point is, of course, that this mild steaming thoroughly softens the horny growth, which then can be pulled out with finger-nails, "root and all," our authority says—thus obviating the use of the knife; adding that, in compensation of the trouble entailed, one enjoys a fine sleep with this warm-pack. While nothing is vouchsafed, this pack, in case of a first failure, presumably must be repeated daily until the corn has become loose enough.

BROMIDE SUBSTITUTION FOR IODINE IN SURGERY

While recent experiments, conducted in Germany, on the substitution of bromine for iodine as a surgical disinfectant are inspired by caution (should, possibly, a scarcity occur before the end of the war), these efforts are not devoid of broader interest, for, no one can foresee what new uses may eventuate from a wider application; although another underlying impulse is that characteristic trait of the German that makes for that efficiency, now the wonder of the world, that ever is on the alert to prevent economic waste and to reduce the cost of existence. Among those investigating this question are K. Feist and F. Bonhoff, both of the German navy, working in collaboration, and who have published their observations in the *Muenchener Medizinische Wochenschrift* (1915, p. 132). Professor Feist is the chemist and staff apothecary.

The present use of iodine in surgery rests, primarily, of course, upon its direct bactericidal action; but there also is associated with it a secondary phase, in that it enters into organic combination with the tissues, from which it then again is slowly liberated, and thus exerts a prolonged and intimate antiseptic and stimulating effect upon wounds. Bromine chemically is more energetic than iodine, hence, a more powerful direct bactericide; however, for the same reason, its albumin compounds (as also is true for bromoform) are less easily dissociated, consequently its secondary influence upon wounds is trifling. (Chlorine, for several cogent reasons, must be ruled out altogether, we are told; still, later work by investigators from the Rockefeller Institute, in France, has given us a chlorinated dressing-lotion for wounds.)

So, bromine—especially in view of its relative cheapness—would constitute an excellent medium for sterilizing the hands and the operative field, but for certain practical difficulties. Alcoholic solutions of bromine rapidly spoil because of chemical changes taking place, so that they have to be freshly made for each occasion. On the other hand, aqueous solutions also are not sufficiently stable, and not being diffusible do not penetrate into the skin, while the water evaporates too slowly.

In view of these objections, the authors tried chloroform as a solvent, and with very satisfactory results, except that, because of its intense action, the strength of the solution had to be limited to 5 percent. Inasmuch as chloroform does not readily spread on moist surfaces, a solvent of equal parts of chloroform and alcohol was tried, but this, too, proved too prone to undergo changes. Under different tariffs between Germany and our own country, and prevailing conditions, the cost cannot be compared; however, for Germany at present this 5-percent bromine-chloroform solution is considerably cheaper than the surgical iodine-alcohol solution. The bromine-solution must be protected from light.

Another possible solvent is carbon disulphide; but its stench and inflammability put it out of question. This leaves carbon tetrachloride to be considered; which the authors have lacked opportunity to try.

EXPERIMENTAL PROVING OF BROMINE-CHLOROFORM AS A GERMICIDE

The practical determination of the germicidal value of bromine-chloroform, as discussed in the foregoing paragraph, was worked out by Doctor Bonhoff, chief assistant surgeon of a German naval hospital-ship, who winds up his presentation (*loc. cit.*) with these words:

"Mercury bichloride is not a positively reliable disinfectant, and even may fail absolutely, especially where deep action is required. In 5-percent bromine-chloroform (as above), we possess an agent which, as in the case of iodine-tincture, when the skin merely was cleansed with benzin, is certain to render the skin absolutely germ-free, even in its deep layers. . . . . It is perfectly competent to replace tincture of iodine for disinfecting the skin and in the treatment of wounds. Nevertheless, it is not suggested

that it displace tincture of iodine, the excellent virtues of which can not be questioned, as long as not demanded by the economic situation."

A condition of use is, that water, particularly soap and water, be strictly avoided previous to cleansing the skin with benzin. The application of the solution causes a sense of coolness, but no smarting; it leaves the skin slightly yellow, which disappears within a day. Irritation never was observed. The urine in no instance exhibited albumin, casts or sugar.

It is needless here to repeat the details of the series of tests, suffice that they were exacting, and yielded results as follows, as between iodine (5 : 100), bromine (5: 100), and bichloride (1 : 1000), and with respect to virulent staphylococci, streptococci, and bacillus pyocyaneus, in pure cultures derived from phlegmons, abscesses, and otitis media:

Mercury bichloride absolutely did not penetrate to any depth, and none of the three germ-species were destroyed after *five* minutes. In the case both of iodine and of bromine, all the germs were completely annihilated at the expiration of *one* minute, even in the deep layers of the cuticle.

Finally, this critical test was instituted: Cultures of staphylococcus and of bacillus pyocyaneus were rubbed into human skin, then these areas were disinfected, some with the iodine- and some with the bromine-solution (bichloride was excluded, because of its proven ineffectiveness), and after, respectively, one minute and five minutes, scrapings from the infected areas were inoculated into agar nutrient. After twenty-four hours, absolutely no germs had developed in any of the culture-mediums; the skin areas showed no irritation.

Conclusion: iodine-tincture and bromine-chloroform, both of 5-percent strength, equally destroy the virulent germs in the skin absolutely within one minute.

FACTS ABOUT THE WOUNDED IN THE PRESENT WAR

Speaking about his observations from the standpoint of the German army, Richard Koch, head of a reserve hospital, says (*Ther. Monatsh.*, 1915, p. 175) that, if there were no tetanus (which is of too frequent occurrence, while the dysenteric attacks are mild), the low mortality would, indeed, be astounding. The number of wounded and sick treated in his hospital (not a field lazareth or a regular military hospital), he declared, has been enormous, and, yet, among these some had lesions that in times of peace would have been pronounced dangerous, including compound fractures, bullet-wounds of lung and skull, the latter with open purulent dura mater, pelvic penetrations, and innumerable badly infected flesh wounds; nevertheless, out of all these, only 2 died, exclusive of 10 dead from tetanus. Only a very few left the hospital crippled for life, the majority being capable of at least resuming garrison duty, a small percentage alone permanently reduced by more than 25 percent of their former earning-capacity.

It may be said, then, Doctor Koch opines, that, but for tetanus and barring injuries to vital organs, a war-wound today is almost devoid of danger; and this applies equally to lesions resulting from infantry and artillery missiles, even to dumdum bullets. Colleagues active in the field lazareths and regular military hospitals of course will dissent from this verdict, and justly so, for, none whose condition seems hopeless are sent to the interior, but are mercifully cared for in the rear of the firing-line until the end. But, the writer argues, this very fact that the transportable wounded almost invariably escape with their lives proves conclusively the relative harmlessness of modern war-wounds. And he adds that, on the whole, the wounds give but little pain, whimpering and groaning hardly ever being heard. In fact, the consumption of morphine is far less than in a civil hospital, this narcotic being displaced by a rational draining away of the wound secretions and the liberal use of fixating bandages. Besides, as is shown in another abstract from this same correspondent, this free employment of the camphorated wine (Pharm. Germ.) as a wound dressing also tends to lessen pain in a marked degree. In fine, these conditions obtaining—no epidemics, scarcely any deaths, hardly any pain felt—Doctor Koch declares, may truly and without exaggeration, be called marvelous.

THE BACTERICIDE ANTITETANIC TREATMENT OF WOUNDS

Dr. Richard Koch, the author quoted in the preceding item (*loc. cit.*), is of opinion that much greater advance in the prophylaxis of tetanus ought to be made. At any rate, in our present state of ignorance, virtually every wound, whether suspicious or not, should be followed by immediate serum injection—in any reasonable amount—for, as soon as a positive diagnosis of tetanus is

possible, this therapy no longer is of much importance. [Presumably reference here is to wounds of soldiers in the field.—Abstr.] At least, the injections should be made upon the slightest suspicious signs in facial expression, halting speech, augmented reflexes, and so on. Scientific accuracy should be ignored.

Furthermore, because—and solely because—of tetanus danger, purely aseptic treatment of wounds must be reduced to the lowest minimum. The infected subject does not become tetanized because of his being infected with tetanus-bacilli, but because these anaërobic bacilli proliferate in his wound.

Experience has demonstrated that bactericidal dressings may not be made; however, the author is not convinced that agents capable of giving off oxygen, oxidizing necrotic tissues, do not exert a retarding influence upon the growth of the bacteria in the wound. Consequently, the consistant introduction of such an agent into every war-wound, from the very first to the end, might greatly reduce the viability of the organism; and to this end hydrogen-dioxide solution and potassium permanganate are suggested for trial.

A general systematic organized activity on these lines promises greater results, it is thought by Koch, than do the studies of the question concerning the relative antitetanic properties and faults of magnesium sulphate, chloral, morphine, and so on.

THE HYPOCHLORITE TREATMENT OF WOUND INFECTION

In the October number of Clinical Medicine (p. 950), we described the remarkable work being done in France by Carrel and Dakin, of the Rockefeller Institute, with an improved solution of calcium hypochlorite in the treatment of war-wounds. At that time we gave the details of the discovery made by these gentlemen (as also, independently, yet, simultaneously, by a group of Edinburg investigators), which in substance is, that by decomposing calcium hypochlorite with sodium carbonate and adding to the resulting solution some boric acid, an antiseptic solution is obtained which, while noncaustic and nonirritant, constitutes a powerful bactericide.

In *The British Medical Journal* for October 23, 1915, there appears an editorial abstract of Doctor Carrel's recent communication upon this subject, as presented to the French Academy of Medicine. Doctor Carrel has established the fact that all wounds inflicted by shells, mines or grenades are infected; this statement being supported by the results of extensive bacteriologic investigation.

As early as six hours after a wound is inflicted, bacteria can be found in it, although at this time they usually are present in only small numbers and mainly localized around the projectile or scraps of clothing. Within twenty-four hours, the number of these organisms becomes enormous. It is not alone desirable, but imperative, therefore, Doctor Carrel maintains, that the wound be cleared of the microbes as quickly as possible; and, looking at the matter from this standpoint, he vigorously repudiates the view that antiseptics are useless.

In the treatment now adopted by himself and his associates in France an effort is made to secure the penetration of the hypochlorite solution into the most remote recesses of every wound. The skin surrounding the wound should be disinfected with tincture of iodine at the first dressing-station; then the wound, if its aperture be small, is injected with the hypochlorite-solution; if large, covered with gauze wet with the same liquid.

At the ambulance- or clearing-station, all foreign bodies should be removed, the wound thoroughly cleaned, and any hemorrhage arrested. The wound should not, however, be mopped, brushed or curetted. The next step is, the thorough irrigation of the wound with the hypochlorite-solution, of 1-2-percent strength. This causes no irritation, even when regularly applied to the skin or tissues for several weeks in succession.

However, while the antiseptic action of this preparation is highly effective, it is of but short duration, since it is decomposed when it comes into contact with albuminous substances (blood-serum). Therefore, it must be renewed by frequent injections or by continuous irrigation. For the purpose of irrigation, Carrel uses india-rubber tubes about 6 mm. in diameter; each tube having a hole 1-2 cm. distant from one end, or several holes, as the nature of the wound may require. The wound is then covered with toweling, for the purpose of absorbing the flowing solution. In fracture-cases, the end of the tube is allowed to lie among the bone fragments.

At the first dressing, the wound is filled with the gauze, and the surgeon assures himself, by testing the tubes, that the liquid will come into contact with every part of the gauze. Over all, there is placed a layer of

nonabsorbent cotton. Every hour, or even every other hour, a sufficient quantity of the liquid is injected into the tubes, unless continuous irrigation can be arranged.

Under treatment of this character, Carrel asserts, the happiest results are obtained. In cases of fracture produced by fragments of shell, although infected, it was possible, under this treatment, to make them so thoroughly aseptic that recovery was as rapid and as complete as with simple fractures.

AN ANTISEPTIC IODINE-SOLUTION

H. W. Yemans (*Milit. Surg.*, June, 1915, p. 522) has used the following surgical antiseptic combination, to the exclusion of all others, during the past eight years:

Iodine	1
Potassium iodide	2
Salicylic acid	5
Alcohol (70-percent)	100

This solution may be applied undiluted for sterilizing the hands and site of operation, also for disinfecting wounds. For wet dressings and for irrigation, it should be diluted with water, so as to give an iodine content of 1 : 1000 to 1 : 5000. Diluted to 1 : 25,000, Yemans has used it in treating gonorrheal ophthalmia and for urethral irrigation. The solution does not injure instruments and may be used to sterilize them. It is not irritating when used in full strength for sterilizing the hands, provided they have not been previously subjected to violent scrubbing. Prior to application, the hands should be well dried. The discoloration of the skin, which it causes, soon disappears.

HOW LONG DOES VACCINATION PROTECT AGAINST SMALLPOX?

There is a widespread belief among the laity that vaccination protects "for seven years." Many physicians also have an erroneous opinion that, while there is nothing sacred in the "seven," any person who has been successfully vaccinated is fully protected against the disease for at least a considerable term of years.

It is not safe to be too dogmatic in statements of this kind. This is demonstrated by some investigations reported in *The Weekly Bulletin* of the Department of Health of the City of New York, in its issue of October 30, 1915. The editorial writer of this little publication states that the inspectors of the New York Department of Health occasionally meet with persons who can be revaccinated successfully at the end of six months, although the shortest period of immunity conferred by vaccination, in the actual experience of the department is nine months. However, medical literature mentions cases of even shorter duration, one of one and one-half months, one of four months, and one of six months. There seems to be a slight discrepancy in these statements; still, it is plain that the immunity conferred by vaccination at times is very evanescent.

Some statistical information is given that bears upon this point, which we find very interesting. For instance, Kitasato, in revaccinating persons vaccinated one year before, had 14 percent of successes; after five years, 50 percent of successes, and, after ten years, 89 percent of successes. The results obtained correspond closely with those obtained by Lescohier. Thus, one year after vaccination the latter reported success in 28 percent of the revaccinated; after five years, in 50 percent; after ten years, in 85 percent.

The *Bulletin* declares that vaccination will "take" in 99.9 percent of persons who have not been vaccinated before, provided the virus used is of high potency. Vaccinated persons become susceptible to revaccination before they become susceptible to smallpox. For instance, the experience of the New York Health Department is, that attendants who have been vaccinated from time to time, while nursing smallpox-patients, have had successful inoculations with the virus, despite the fact that they have remained immune to smallpox, although almost constantly exposed. The protection of vaccination against smallpox, therefore, undoubtedly is considerably greater than that indicated by the figures given.

The moral of these statistics, however, is, that every individual who is likely to be exposed to smallpox (and everyone is) should be vaccinated at frequent intervals. It would be a good rule to require revaccination every five years, especially during youth.

EMETINE IN DYSMENORRHEA

One reader of Clinical Medicine writes to inquire wickedly, whether "there is anything that emetine will *not* cure." Considering the variety of diseases for which this remarkable alkaloid has, in recent time, been advised, we do not wonder at our friend's levity. However, we are not inventing these claims—we simply present reports, and certainly a drug that is doing so much, and

promising so much, is worthy of most serious consideration.

And now for another new use. Dr. W. Beresford Robinson (*Practitioner*, Oct., 1915, p. 544) has been trying emetine in his cases of dysmenorrhea which did not respond to the usual remedies. Most of his patients had suffered from painful periods for many years. Now he has obtained good results from the emetine, although he found it desirable to give as high as 2-3 of a grain of the alkaloid daily. He begins with the drug on the day preceding the probable onset of the menses, and continues it during the first two or three days of the period. He has found that, if he injects, in the morning, a dose of only 1-2 grain, the effect wears off late at night, so that the pain returns.

Most of his patients were of the usual type in which one meets with this condition, that is, toxic patients, unmarried, often constipated, most of them dark-skinned, and having cold extremities and a dull facial expression. "Naturally, the emetine does not cure the condition," Doctor Robinson warns; "still, to my mind, it alleviates it better than any other method I know of, without being in the slightest degree a depressant."

EMETINE IN MUCOUS COLITIS

In his paper in *The Practitioner*, referred to in the preceding abstract, Dr. W. Beresford Robinson tells of his employment of emetine hydrochloride in a very severe case of mucous colitis of two years' standing. The patient, a woman, was passing mucus mixed with blood, and suffered greatly from abdominal pains, had severe headaches, and during menstrual periods was in agony, which was relieved only by means of morphine. Every ordinary drug had been tried for the relief of her condition, but all had failed. The patient's pulse was feeble and rapid (120), and she was confined to her bed, utterly prostrated, the least exertion leading to fainting-attacks.

In December, Doctor Robinson began with the emetine, injecting 1-2 grain daily. Within a week, all hemorrhage had stopped and there was less mucus than at any time during the entire illness. The pulse improved in strength and volume, and the pain was greatly lessened. The following menstrual periods practically were painless. In six weeks, the patient was able to walk about a little and could enjoy a drive. Except for a brief setback, caused by an intercurrent influenza, this woman has continued to improve.

In this instance, Doctor Robinson declares, the emetine had a soothing effect upon the bowel that was truly miraculous. It is his purpose to try it, in small doses, in the treatment of some cases of summer-diarrhea of children.

EMETINE HYDROCHLORIDE IN PHTHISIS

After having prescribed emetine hydrochloride for some time, W. Beresford Robinson (*Practitioner*, London, Oct., 1915, p. 544) makes the statement that he is convinced that this alkaloid "occupies a very useful place in everyday medicine." The sole objection to its use, in the view of Doctor Robinson, is, the "moderate amount of local tenderness following subcutaneous or intramuscular injections." It must be given hypodermically, he continues, because, when given by mouth, it causes vomiting; or, administered per rectum, it produces tenesmus and diarrhea. However, the local reaction is not sufficiently painful to preclude its daily use over long periods of time, provided one varies the point of injection in the arms and alternates the arms from day to day. Doctor Robinson has observed no depressing effects, while the pulse is slowed and strengthened.

Doctor Robinson has tried emetine in several cases of phthisis, to check hemorrhage. He has found it uniformly successful, controlling the hemorrhage completely in about three days. Not only does the emetine arrest the loss of blood from the lungs, but in some unexplained way it seems to cause improvement in the health of the patient.

For instance, Robinson describes his experience with a man of 30 years who developed extensive phthisis, and which progressed with appalling rapidity. In ten days from the first onset, the patient became utterly prostrated, with physical signs of the disease over both lungs. There was severe and copious hemorrhage, which he was unable to control with the customary remedies. Doctor Robinson thereupon began the administration of emetine, giving it at first in 1-3-grain doses daily for three days. On the fifth day, as the hemorrhage had entirely ceased, he discontinued its use. Bleeding recurred on the seventh day, whereupon the emetine injections were resumed, the drug being given in larger doses. It was injected daily for a week, then on alternate days during the second week, and then only occasionally during the following fortnight. There occurred no more hemorrhages. The patient

thenceforth improved steadily, and was sent to a sanatorium, since which time he has become very much better.

Doctor Robinson tells of several other cases of hemoptysis cured with this alkaloid.

SIR WILLIAM OSLER'S GRACEFUL TRIBUTE TO THE DEAD EHRLICH

In Sir William Osler's scholarly address upon "Science and War," lately delivered at the University of Leeds Medical School, much was said about the contributions of science to the destructive forces of men. The paper, as a whole, should be read by every American medical man. (See *The Lancet*, Oct. 9, 1915, p. 795.) We particularly wish to call attention to Sir William's fine tribute to that illustrious German scholar, recently deceased, Paul Ehrlich. This tribute is the more notable, because it comes from a patriotic British citizen. He spoke as follows:

"It was a noble motive that prompted the Warden and Fellows of New College to put upon the roll of honor in their hall the name of a German Rhodes scholar, one of her sons, though an enemy—who had fallen in battle for his country—an action resented by certain narrow-minded Philistines in the press. I should like to pay a last tribute of words to Paul Ehrlich, one of the masters of science, who has recently passed away. Many will recall with pleasure his outstanding position at the last International Congress of Medicine. In microbiology and in the biochemistry of cells, he was a creator, and no one of his generation contributed so much to our knowledge of the relations of living matter and chemical compounds. His studies on immunity form a new chapter in pathology. The climax of many years of patient work on the specific affinities of chemical substances for certain cells and for protozoa was reached in the discovery of '606' as a cure for syphilis. The brilliant labors of such a man transcend national limitations, and his name will go down to posterity with those of his countrymen, Virchow and Koch, as one of the creators of modern pathology."

THE ACTION OF ADRENALIN IN GASTRIC CRISES

Readers of CLINICAL MEDICINE will recall references in this journal to the influence of betaimidazolylethylamin upon the etiology of urticaria and asthma (see CLINICAL MEDICINE, Aug., 1914, p. 712, and Sept., 1914, p. 799). In these numbers, we reported the experience of Allan Eustis, who, in following out some studies made in von Noorden's clinic at Vienna, became convinced that urticaria frequently is of gastrointestinal origin, being caused by betaimidazolylethylamin; the latter a result of the decomposition of histidin, one of the amino acids formed during the normal pancreatic digestion of protein.

Eustis showed that rebellious urticaria can be cured by two weeks' abstention from albuminous food; also that the symptoms of the acute attack can be relieved by means of injections of adrenalin.

Dr. Bayard Holmes, in a paper contributed to *The Lancet-Clinic* (Oct. 30, 1915, p. 392), gives his experience with some cases observed in the Cook County Hospital, Chicago, which led him to the conclusion that there is some relation between the pain of gastric crises in tabes and the presence of betaiminazolylethylamin in the body. A further clinical study uncovered the interesting fact that these gastric crises can be relieved with injections of adrenalin, the same as in the case of urticaria. Moreover, he shows that, in some cases at least—possibly in all—these *adrenalin injections are followed immediately by a fall of the blood pressure.* This certainly is most remarkable, for, under ordinary circumstances, adrenalin, when administered intramuscularly to healthy men or intravenously to large dogs, raises the blood pressure, from 40, to 80 mm.

Not only, however, is this discovery, that the pain of gastric crises is relieved (even if but temporarily) by adrenalin, of considerable therapeutic importance, but, as Holmes points out, "should this reaction be found uniform, it will be a valuable means of diagnosis when a surgical operation for the relief of the pain is contemplated."

Another decidedly interesting observation made by Doctor Holmes in this connection is, that the bodily reaction to adrenalin, in cases of gastric crises, is similar to that produced by the same drug in dementia-præcox subjects. He ventures to suggest that this fact provides a basis for further research into the etiology of the latter disease.

It may be added that the similarity of therapeutic results in cases of urticaria, which has been demonstrated, by Eppinger, von Noorden, and others, to be dependent, at least sometimes, upon intestinal intoxication with betaimidazolylethylamin, should warrant a further study of the blood-pressure conditions in urticaria and in asthma, in order to determine what reaction to adrenalin medication occurs in those two disorders.

Miscellaneous Articles

How Do I Collect?

IT WAS my intention to continue these papers under the heading of "My Best Collection Letter," but after a personal canvass of several hundred men in the field and a careful study of the material obtained I have come to the same conclusion as did our farmer friend when he first made acquaintance with a giraffe—"There ain't no sich animal." I have, however, received some very interesting letters on the subject of making collections, many of which raise some very pertinent points; and these should form the basis of a very interesting general discussion of the subject.

The average practitioner, it seems, collects between 90 and 95 percent of his outstanding accounts. Some few of those expressing themselves confessed to a considerably lower percentage, while quite a number declared they collected more than 95 percent. This would seem to indicate that the doctor, even though he may be made to wait until the butcher, the baker, the grocer, and the movie-palace have had their share of his client's earnings, ultimately loses not more than do the tradespeople of the class mentioned. This probably is owing to the fact that people recognize a greater moral obligation to the doctor and hold themselves in honor bound to pay—ultimately.

The methods employed in making collections—outside of writing letters—appear to be, in the order of their most frequent use, first, monthly statements; second, making personal calls; and, lastly, the taking of notes at the completion of the service. A surprisingly large number of doctors have informed me that they never use collection-letters, relying entirely merely upon rendering statements of account. This seems to me an unsatisfactory condition.

The question now seems to be: Can we, by closer organization, mutual cooperation, and more businesslike methods, increase the general average of accounts collected to more than 95 percent? Let's see whether the answer and the means do not lie in the letters, forms, methods, and the like, herewith presented.

How Do I Collect?

The following letter was written by Dr. J. F. Roemer, of Waukegan, Illinois:

I have on hand a large number of printed stock letters, but go on the basis of the old darkey—"We never send bills to gentlemen."

The question arose, Suppose I forget and do not pay my bill?

His reply was, "Then you cease to be a gentleman and we immediately send you a bill."

I select my stock letter to fit the individual case, and keep right after the account, using the means and methods most suitable for that particular debtor.

In the first place, I aim to do good work. If I do not know what is wrong, I say so and advise my patient to go at once to a specialist. Then I get busy and learn all about that disease, for the next occasion. In a general practice, we cannot be adept at all things, but must know what really needs to be done, then get a man to do it for you—and for the patient.

That kind of dealing makes friends and gives confidence. I find that people will pay for that kind of work cheerfully, but do not like to pay where they feel that they did not get good value for their money.

In other words—deliver the goods to the satisfaction of the interested party, and he will respond in like manner to the best of his ability.

Doctor Roemer's statements and forms follow as nearly in the order of their use can be determined:

In Account With

DR. J. F. ROEMER

Early Settlements Make Long Friends

I Have Adopted the Plan of Sending Statements Every Three Months for Three Reasons:

1. Because the business world allows thirty to ninety days time to those with approved credit. Most bills are due in thirty days.

2. Because my expenses require that I be a little more methodical in regard to my collections to keep my own credit good.

3. That you may compare your memorandum of account with mine, and if there be a difference, it can be adjusted while fresh in both our minds.

Do not construe this to be a dun. It is merely a statement of account—a request for money only when past due—ninety days. Where necessary, we will try to make arrangements for a more convenient time.

For a doctor to buy the necessary office apparatus, books, drugs, and other equipment, to render services of the highest efficiency, requires the expenditure of a great deal of money.

The nature of my business necessitates a great many small accounts, which in the aggregate, amount to quite a sum. So if you can spare the above amount, it will greatly convenience and oblige. You appreciate prompt service; we appreciate prompt pay.

Dear Sir: I am sending statement of accounts to date to all of my patrons. Please see yours inclosed. This is an opportune time to attend to such matters. This is the closing month of the year, and we all want to close the year right. Christmas is coming, and we all want to enjoy this festive season, and we will all be happier if we can look the world squarely in the face and say, "I owe no man."

The approaching holiday season is a time when we all want to "read our title clear," and we can't do it with debts hanging over our heads. This is not a dun, but only a gentle reminder, and a hint as to how to be happy and make others happy. If all will kindly act promptly upon this suggestion, everybody will be happy.

Yours very sincerely,

Dear Friend: One week ago I mailed you a polite note, inclosing my account with you to date. I hope you found it correct. If there is any question, please call at your earliest convenience and we will consider the matter together. Nearly all my patrons responded promptly to my first note, and I am disappointed that I have neither seen nor heard from you. Possibly it was not convenient for you to call. I trust that I may see or hear from you during the present week, for I have some financial engagements to meet, and will need all my resources.

Yours for a Merry Christmas,

Dear Mr. . . . . . : I have written you twice recently concerning your account with me, but, strange to say, I have heard nothing from you. Suppose I should treat you in such a way when you are sick—what would you think of it? However, I will be charitable with you, and will conclude that you have been too busy—or perhaps you have been saving up the amount to bring to me in a few days. I assure you that it will be very welcome, for doctors have more expenses to meet than most other people.

After settling this account you will feel better—you will feel easier in mind, and that will make you feel better in body. You will also know that when you or any of your family get sick, you can get prompt and willing attendance. This in itself is worth much.

Confidently expecting to see or hear from you soon, I am,

Yours for a Square Deal,

Dear Mr.. . . . . : This is my fourth letter to you about that little business matter. You have disappointed me sorely. But Christmas is nearly here, and maybe you are planning to surprise me on that day by calling and settling your account. If so, you will make it a happy day for both of us. I will expect to see you then, if not before.

Yours for a clear conscience on Christmas Day,

Dear Sir: You have disappointed me all this month; and your failure to call and settle on Christmas was a very great disappointment. Now the question is, will you also disappoint me on New Year's Day? Will you begin the New Year owing this bill? I hope not—I think not. I think that you are beginning to realize your duty in the matter. I am going to trust you again; and I am going to hope and believe that you will not begin the New Year with this just debt hanging over your head.

Yours for another trial,

Being greatly in need of money right now, it is found necessary to collect in some ready cash, and this request is being made of you along with other debtors. What you can do in the way of assistance at the earliest possible date will be highly appreciated. Please do what you can and oblige,

Yours truly,

Dear Sir:

According to my books you are indebted to me to the amount of $. . . . . , which please call and settle at once, or make satisfactory arrangements for the payment of same. I do not wish to make you any costs, but if you compel me to, it will be your own fault, and not mine.

I owe you no ill will and ask nothing more of you than my creditors ask of me.

Respectfully yours,

Dear Sir:

I have repeatedly asked you to call and settle your account, but have heard nothing from you. No doubt you are aware that the principal merchants and leading professionals have a protective union, and in conformity with its laws, are compelled to report the names of those who refuse to pay their just debts. As our business relations in the past have been pleasant, I am disinclined to report your name and account to such outside parties, whose methods of collecting are through disreputable agencies that would give you much annoyance and double your indebtedness.

Please appreciate my desire to treat you fairly and honorably, and delay payment of this account no longer.

Respectfully yours,

P. S.—If I owed you, what would you want me to do?

Form 1.

THE CLAIM ADJUSTMENT AGENCY,

This Agency is established to afford protection in giving credit and is a safeguard against those who contract debts and can but will not pay.

Our subscribers are furnished with a list of parties whose accounts are advertised for sale, and each subscriber will refuse credit to anyone whose account appears in such lists until settlement of claims against them have been made and noted by this Agency.

Dear Sir:

Not wanting to put you to the expense or inconvenience by placing your unsettled account, amounting to $.....in the hands of the above Agency, we send you this notification in order to give you an opportunity to adjust it with us. Should you fail to attend to this within .....days, we shall feel justified in placing it in their hands, with instructions to collect it in their system.

Hoping to hear from you within the time specified, we are,

Yours truly,

Form 2.

THE CLAIM ADJUSTMENT AGENCY,

This Agency is established to afford protection in giving credit and is a safeguard against those who contract debts and can but will not pay.

Our subscribers are furnished with a list of parties whose accounts are advertised for sale, and each subscriber will refuse credit to anyone whose account appears in such lists until settlement of claims against them have been made and noted by this Agency.

Dear Sir:

We notified you by a courteous letter on the .....day of.....that our account against you amounting to $.....was past due, and gave you.....days to reply. Your silence would indicate a disposition on your part to evade the payment of an honest debt, and we shall regret being forced by your negligence to place your account in the hands of the above Agency for adjustment, but unless you remit us within.....days from date hereof or make satisfactory settlement, we shall be compelled to do so.

Yours truly,

The next letter was submitted by the wife of a doctor—Mrs. M. F. Woodard, of Bloomingdale, Indiana, under the heading of

As Seen by a Doctor's Wife

"We do not usually think of the physician as being a good business man, especially in the matter of collecting accounts due him. I once read of a man who had made a failure in business and therefore decided that, as he did not have good business ability, he would study to become a doctor. Nevertheless, we believe that every physician ought to be enough of a business man to see to it that he gets his pay for services rendered. Not but that he may do some charity work; not, however, to such an extent as to cripple him in meeting his obligations or supporting his family creditably.

"In our own little town, the merchants are placing their business upon a cash basis, the coal-dealers are doing the same, and, in fact, all men of every occupation expect their pay immediately upon the delivery of the goods or the completion of their services. *All* men, I say, except the doctor. He, it seems, must wait an indefinite length of time, or run the risk of giving offense if he indicates a preference for prompt pay. I speak especially of the general practitioner who has the small town and vicinity as his particular territory. And sometimes this limited field is shared by two or three competitors. At one time, not long ago, there were four regular practicing physicians and, in addition, a chiropractor in our little village of 600 population, and I am somewhat of the impression that the chiropractor did the biggest cash business of the five individuals there engaged in the art of healing.

"In the successful handling of collections, extremes are to be avoided, as in everything else. To manifest any embarrassment or timidity in approaching a debtor regarding his account, is quite as bad as to be disrespectful or overzealous. In the first instance, one may lose the account; in the second, the patient. As Doctor Hawley, of Wisconsis, correctly says: 'I am willing that my patients should become angry at me, if it cannot be avoided, but I never allow them to lose respect for me.'

"I wish the splendid articles of A. D. Brush, entitled 'The Keystone of Success,' which appeared in the May and June numbers of Clinical Medicine, could be read and applied by every physician in the country. One of the things that he mentioned which ought to be adopted everywhere is, for a county medical society to prepare its own list of poor-pays, the information being furnished by the doctors of the county, for mutual protection. Then, if the doctors will avail themselves of the advantage which this information affords and be loyal to one another, it will soon stop patients of this type dodging from one doctor to the other, in an effort to avoid paying their bills.

"We here have the poor-pays pretty well marked and, as the wife of a physician, I find that opportunities come to me frequently for getting the money out of this class if they persist in patronizing the Doctor. Not long ago, one of this class sent her grandson to the house for a bottle of medicine, saying that she would call for it at the office. I sent back word, that she bring the money when she called for the medicine. The money did come all right—although her feelings were somewhat ruffled. At another time, a woman

called up, over the telephone, for some medicine. I asked her when her husband was expecting to see the Doctor at his office. She replied that she didn't know, and wanted to know, why. I answered, 'To settle the balance owing, according to promise.' She didn't say anything more about getting medicine for two or three days; when she did, the money was forthcoming. However, she had tried in the meantime to get the medicine from another physician but had been refused. At still another time, when a call came to the house for the Doctor, I sent word that he could not call. They immediately took the hint, and the debt of long standing was paid.

"For the most part, our patients belong to the good-paying class, although some of them do not find it convenient to offer much cash, having either to work it out or trade in coal or produce. Sometimes we get our milk, butter, eggs, and groceries in this way. I have adopted the plan of sending statements once a month or making out a list for my husband to see. By working together in this way, we have secured much better results than formerly."

A. D. Brush.

Chicago, Ill.

ALESSANDRINI'S SILICIGENOUS THEORY OF THE ETIOLOGY OF PELLAGRA

Some time ago, there was presented in these pages (1914, p. 1129) Professor Alessandrini's (the Italian investigator) theory of the causation of that puzzling malady pellagra; the principle set forth being, that certain drinking-waters contain colloidal silica, and that this silicic acid tends to prevent the elimination of certain salts, with the consequence of an excessive generation of mineral acid in the tissues. The ingestion of basic sodium citrate is proposed as the remedy, while the water must be abandoned. From our foreign exchanges we learn that, in association with A. Scala, Giulio Alessandrini has embodied this matter in a book of 176 pages, with 8 plates, published at Rome.

THE VALUE OF PROMPT COLLECTIONS

The business of a doctor is peculiar, in that it is always personal. Unlike men in mercantile lines, the professional man cannot delegate his work to others, but must do it himself. The doctor cannot send his bookkeeper or clerk. This means that when he is busy he is very busy and has no time for books or accounts. Often it happens that the more practice a doctor has the less money he gets in, relatively. He is giving conscientious attention, day and night, to his patients, and his books are neglected, accounts are multiplying and growing larger, and he finally wakens to the fact that he needs money, that irresponsible names have crept into his books, that those who can pay do not do so.

Meanwhile overhead expense not only has kept up, but increased. The automobile must be kept in running order or wornout horses replaced. Books, journals, medicines, and instruments must be bought and all the other expense incident to a growing practice provided for. An outlay in many directions, but only one source of income.

Here is where the doctor needs help, either through efforts from his own office or from someone who is able to give him satisfactory service. By taking up the collection of accounts promptly, they can be prevented running an indefinite time. The doctor puts in full hours for every charge he makes on his ledger, and he should have the use of the money he has worked hard to earn.

Again, unless debtors are made to pay their bills, they have a way of thinking (and expressing their thoughts, too) that the services rendered were of doubtful value; that treatment was not first-class, or else the doctor would insist upon his pay. This is always the attitude assumed by a man who intends to beat his bill; sometimes, indeed, he even talks about malpractice. The longer the bill has run, the more likely is he to attempt justification of his delinquency, sometimes going to ridiculous extremes in inventing reasons for nonpayment.

The average doctor, unfortunately in some instances and through stress of circumstances in others, spends all the money he takes in, and what he puts on his books he figures as having saved. In this way, the inexperienced man can for a time build palaces fairer than dreams. With substantial sums charged up against apparently well to do debtors, he has no fear of the future, for, in emergency he can call for settlement and the money will be there. Meanwhile he figures, again falsely, that he is doing his patients a kindness, showing real consideration, in fact, by not presenting their bills; forgetting that the longer he waits the more insecure becomes his hold upon them, while ignoring the business maxim that sharp collections hold customers best.

I once called, several years ago, upon a doctor in a prosperous Ohio city. It was not a small city and the doctor in question had a

practice that was largely among the most responsible people in town. His income was large and his clientele choice. He seldom lost any money in bad accounts, yet was obliged to wait indefinitely in a majority of cases for his fees. He had educated his patients wrongly from the start. Illustrating the conditions he had to contend with, he related to me some personal experiences in making collections. Perhaps it would be more proper to say, in "trying" to make collections.

It seems that the doctor had been summoned to New York, and, although able to check against a good bank balance at any time, he very naturally conceived the idea that it would be a good time to get in some money. Therefore, before departing on the evening train, he determined to use part of the day for that purpose. He took with him about $2000-worth in statements, so he said, against the "best people" in town.

"How much did I get in that day?" he queried of me.

Thinking to let him down easy, I said: "O, about a hundred dollars."

"I collected just seventeen dollars," he said. "Seventeen dollars! And the best people in town! Two thousand dollars in good bills, and I collected not quite 1 percent. And every debtor I called upon was in."

Pressed to relate his experiences in detail, he said to me:

"My first call was upon a wholesale grocer. His greeting was most cordial. 'Why, hello, Doctor, we don't often see you over here. What can we do for you? Have a cigar. Oh, Emily's bill. That's for the typhoid case. I'll take it right home tonight and have my wife check it over. Glad you came in. Call again.'

"My next call was at the office of the gas company, where I received the same cheerful welcome from the president. 'I'll write the hospital to send in their bill, so I can pay them both at once. You'll hear from me about the first of the month.'

"The next call was on a railroad official, who promised to have his secretary mail me a check."

Here is the concrete experience of a man with good accounts to collect, accounts against solvent and responsible debtors, and I might add that this particular doctor for several years past had been sending out statements with the same regularity as his wholesale grocer friend and the gas company, and we all know how prompt they are in presenting bills and following them up when payment is delayed.

The other kind of debtor, the naturally poor-pay kind—the professional delinquent—did you ever diagnose his financial health, doctor? Ever find sclerosis of his money arteries? Ever make microscopic examination of his "habit of pay" and find it swarming with bacilli that neutralize his normally good impulses? Ever notice a cirrhotic degeneration of his pocketbook? This is a chronic condition that resists almost any known treatment. Doctor, your blood will reach 99 Fahrenheit and go on upward until syncope sets in if you wait for this class of parasites to settle their bills.

C. B. Potter.

Chicago, Ill.

RECENT RULINGS UNDER THE HARRISON ANTINARCOTIC LAW

In the March 11, 1915, number of *Treasury Decisions*, issued by the Treasury Department of the United States, there was published a complete résumé of the various rulings relative to the manner of enforcing the Harrison Antinarcotic Law. All these rulings have been published in previous numbers of Clinical Medicine and need not be repeated here; while anyone who wishes to familiarize himself with them will find an excellent epitome in the Federal Narcotic Record Book published by The Abbott Laboratories. Since March 11, 1915, however, new regulations have been put into force from time to time; but all of these, we believe, have been reproduced in the pages of this journal. Still, because of the importance of some of these decisions, and at the request of some of our subscribers, we reprint herewith a résumé of some of the most important ones; as follows:

Synthetic Substitutes for Cocaine or Alpha and Beta Eucaine.—Section 6 of the Law especially excludes from any exemption "preparations which contain cocaine, or any of its salts, or alpha or beta eucaine, or any of their salts, or any synthetic substitute for them." At first the Treasury Department ruled that preparations such as novocain, stovaine, alypin, and the like would not be construed as coming within the purview of the law. In T. D. 2194 (see *Treasury Decisions* for April 29, 1915), it was ruled that any "artificial substance or preparation which is or may be substituted for cocaine, alpha or beta eucaine, or any of their salts as ordinarily prescribed or used," should be construed as coming within the operation of the law. Therefore, novocain, stovaine, alypin, orthoform, and all similar substances must be ordered on the regular narcotic-blanks and dispensed or prescribed under the same restrictions as cocaine.

Quantity of Narcotic That May Be Dispensed or Prescribed.—In T. D. 2200 (see *Treasury Decisions* for May 20, 1915, p. 33), it was decided that when

a physician, dentist or veterinarian prescribes any of the narcotic drugs affected by the Federal Law "in a quantity more than is apparently necessary to meet the immediate needs of a patient in the ordinary case, or where it is for the treatment of an addict or habitué to effect a cure, or for a patient suffering from an incurable or chronic disease, such physician, dentist, or veterinary surgeon should indicate on the prescription the purpose for which the unusual quantity of the drug so prescribed is to be used. In cases of treatment of addicts, these prescriptions should show the good faith of the physician in the legitimate practice of his profession by a decreasing dosage or reduction of the quantity prescribed from time to time, while, on the other hand, in cases of chronic or incurable diseases, such prescriptions might show an ascending dosage or increased quantity. Registered dealers filling such prescriptions should assure themselves that the drugs are prescribed in good faith for the purpose indicated thereon, and, if there is reason to suspect that the prescriptions are written for the purpose of evading the intentions of the law, such dealers should refuse to fill the same."

No Exemptions for Prescriptions of Narcotic Drugs.—In T. D. 2213 (see *Treasury Decisions*, June 17, 1915, p. 81), it was ruled that the exemptions in Section 6 of the Act (in which it was declared that "preparations" and "remedies" containing minimal quantities of opium and its alkaloids are not affected by the law) should not apply to prescriptions written by registered physicians, dentists, and veterinarians. Under this ruling, every prescription calling for a narcotic drug, no matter how small the quantity prescribed, must conform to the requirements of the law and the regulations thereon. In other words, every such prescription must have indicated thereon the name and address of the patient, the date, the name and address of the physician, and his registry number. Such prescriptions may not be refilled, and must be filed by the druggist for a period of two years.

Lost Narcotic Order Forms.—In T. D. 2230 (see *Treasury Decisions*, August 5, 1915, p. 33), it is ruled that "in event an official narcotic-order form is lost between the time it is received by a registered dealer's representative, or is deposited in the mails, and the time it should have reached their office, the person writing such order will be required to make out a new official order form, attaching an affidavit to the duplicate of the first order, stating that the goods were not received, on account of loss of the order in transit, such affidavit being made upon receipt of notice from the registered dealer, and, if the first order subsequently turns up at the office of the registered dealer, it should be returned to the person who made it, marked across the face 'Not accepted,' and should be attached to its duplicate and the affidavit already on file explaining the reason for its not being honored."

When Narcotics Not Ordered are Accidentally or Unintentionally Shipped to a Customer.—In a ruling not yet published, it is declared that, where narcotics not ordered are accidentally or unintentionally shipped to a customer, it will be necessary for the person receiving such drugs to notify the manufacturer immediately, giving a list of the kinds and quantity of drugs received in error, and await the receipt of an official order form from the manufacturer before he is at liberty to return the goods; a copy of the letter of notification being attached to the inventory in the possession of the receiver, to protect him in event an inspecting officer visits his place of business and discovers the excess of narcotic drugs in his possession.

Eligibility of Osteopaths for Narcotic Registration.—In T. D. 2232 (see *Treasury Decisions* for August 5, 1915, p. 35), the following ruling was made: "Osteopaths should be permitted to register and pay special tax under the provisions of the act of December 17, 1914, provided they are registered as physicians or practitioners under the laws of the State and the affidavit is made in application for registration on Form 678, as required by T. D. 2215 of June 10, 1915."

Narcotic Dosage Required on Order Blank.—The following very important ruling, which we desire particularly to call to the attention of our readers, appears in *Treasury Decisions* for September 30, 1915, page 25, to wit, T. D. 2244: "In entering items calling for narcotic preparations and remedies on the order form issued in accordance with the provisions of Section 2 of the act of December 17, 1914, the quantity of narcotic drug to the ounce must be indicated, or, if ordered in tablet form, the total number of tablets and the quantity in grains per tablet should be stated."

The enforcement of this decision has been delayed until January 1, 1916. However, we strongly urge our readers to conform to this regulation at once, so as to "get the habit."

Method of Signing Narcotic Order Forms.—The following regulation (T. D. 2244) was published in *Treasury Decisions* for September 30, 1915, page 25: "The signing of narcotic-order forms with a firm-name, with no other name to indicate who wrote the order, will not be permitted. The name of the principal officer of a firm, corporation, partnership, or company, or the person who is granted, through power of attorney, authority to sign such orders must invariably appear thereon, and druggists and dealers are cautioned against filling such orders unless these requirements are complied with. Stamps or printed signatures on order forms are not permitted, and in every instance there must be an indication of individual responsibility in the preparing and signing of these forms."

In a later ruling, not published in *Treasury Decisions* at the date of writing, it is further added that in the case of branch establishments the name of the corporation, together with the signature of the manager, should appear immediately below. It is also ruled that the signature of any one of a number of different employees or officers of a large corporation will not be permitted, unless a power of attorney is filed with the Collector of Internal Revenue. "If the principal officer of a corporation is unable, through sickness, absence, or press of business to sign official order forms and wishes to delegate this power to some other officer or employee, a power of attorney must be filed with the Collector, designating the person so empowered."

This list of regulations includes, we believe, all those of special interest to the medical profession issued since March 11, 1915. However, difficulties are constantly arising as a result of misunderstandings of the meaning of the law or ignorance as to its exact requirements. If any of our readers are meeting with difficulties of interpretation

and will communicate with us, we shall be glad to give them any help we can.

In previous numbers of CLINICAL MEDICINE, we have urged our readers to make records, in their Narcotic Record Books, of all narcotic drugs which they might dispense, paying no attention whatever to the exemptions provided by the law. By so doing, they will be "playing safe" in every instance.

Practically the only dangers to physicians in the use of narcotics come from (1) failure to keep records, or (2) from dispensing or prescribing unusual quantities of the narcotic drugs, especially in the treatment of addicts.

To play doubly safe when handling the last-named type of patients, we would strongly advise that patients of this class be seen in consultation with other physicians, unless they are treated in hospitals or other institutions.

Once more we want to say that there is no reason why any physician should fear to use the narcotic drugs just as he always has prescribed or dispensed them, provided he keeps the preceding simple points in mind. Whenever it is a physician's duty to relieve pain, he should do so with the best remedies available.

We know it is not the intention of the Treasury Department to interfere in the practice of any practitioner doing a straightforward, honorable business. It is only the crooks who need to be alarmed. Nevertheless, honest men should be careful.

PELLAGRA, AND ITS TREATMENT

So much has been written about pellagra, its etiology, pathology, diagnosis, and treatment, that it seems almost unwise to suggest anything new relative to its possible cause and its treatment. Yet, in the face of this, it remains the duty of everyone who has treated pellagra victims successfully to make public his views.

Until four years ago, I had not seen a case of socalled "pellagra," but in the first case I encountered, my diagnosis was confirmed by a well-recognized physician of our city; after which I treated the case, and then three others in one family. All of them are well today, with no sign of currence. In each case I observed Riggs' disease, or pyorrhea, with all the concomitant symptoms of pellagra. When the pellagra disappeared, the pyorrhea was cured, too.

Various writers have reported that when treating pyorrhea with emetine, the coexisting skin trouble (such as psoriasis or eczema) seemed to disappear also. The reverse is true for pellagra.

Therefore, I am led to believe that the ameba of pyorrhea is at least a contributory cause in pellagra; that the outward symptoms are a manifestation of an internal condition; just as the typhoid bacilli, located in Peyer's glands of the bowels, produce all the outward, local, as well as the constitutional disturbances so characteristic of the disease.

Some writers contend that the disease is caused by insufficient and improper food, and that abundant and proper food will cure it; others claim that certain kinds of food will cause it, while other foods will cure it. These various views were reviewed at length at the triennial conference of the National Association for the Study of Pellagra, held in October at Columbia, South Carolina; but no definite conclusions were arrived at.

Thousands of people go on suffering from pellagra, especially here in the South, and mostly in country districts where the people generally subsist on a varied diet, more so than people in the cities. This hardly comports with the onesided-diet idea and does not appeal to me as a rational explanation.

Thirty years of practice has taught me to do something or quit and acknowledge failure. This condition has been with us long enough to be corralled and conquered at last; and my way of treating it is very simple, as you will see. I observed that all pellagra patients coming under my care had pyorrhea, so I reasoned that the ameba might poison the whole system, producing anorexia, diarrhea, dysentery, skin eruptions, spasms, toxemia, delirium and death (as I saw in one patient not under my care). Then I instituted the following treatment: A teaspoonful of ecthol (containing echinacea, and thuja, in aromatic elixir) in water before each meal. Also, I give half a teaspoonful of salugen (composed of zinc phenolosulphonate, beta-naphthol, menthol, thymol, myrrh, and hydrastis, with aromatic base) in water after each meal. I bathe the affected parts with the same mixture, undiluted, to relieve itching and burning.

Where the pyorrhea is marked, I use, hypodermically, emetine hydrochloride, a 1-2-grain ampule, every day for three days, then every other day for three days. The patient shows signs of improvement almost at once. One course of emetine, as stated, is all that I find necessary. Within thirty

days, the patient seems about well; still, I continue the other remedies for sixty to ninety days, for fear of relapse the following season, although I have had none so far. While my experience with emetine is limited, I shall continue to use it in connection with the other treatment, and feel confident of securing good results.

GEORGE W. BASS.

Knoxville, Tenn.

EMETINE IN TYPHOID FEVER: A FAILURE IN THIS CASE

When I read about the remarkable results of emetine hydrochloride in typhoid fever, as reported by Dr. W. L. Frazier on page 453 of the May edition of CLINICAL MEDICINE, as also the reports of its hemostatic power in hemorrhages, praised in other issues, you may be sure I made a mental note of it as being the proper "dope" for my next typhoid-case. And now I want to submit my experience with that first case.

On September 2 last, I was called to a sick man, but at the time was unable to diagnose more than gastrointestinal irritation. The next day he notified me that he was much improved. The following day he was in bed most of the time. On September 5, I was called again, when I found his temperature to be 102.8 F., and I diagnosed typhoid fever. The services of a good trained nurse were obtained on September 7, and in the evening 1-2 grain of emetine hydrochloride was given hypodermically. This treatment was continued night and morning. The patient showed a steady evening-temperature of 103 degrees or more until the evening of September 16, at which time the hypodermics were discontinued.

On September 30, the 28th day of the disease, the morning-temperature reached the normal point for the first time and lysis set in. At 2-30 p. m. on October 4, the bed-pan was used, when a full pint of clear blood passed, and at 5:30 p. m. about half as much more, with some of darker color, which evidently had been oozing. Once, a few hours later, he had a dark passage, but after that no more signs of hemorrhage.

Of course, the sulphocarbolates and other proper treatment was carried on at the same time with the emetine.

We get plenty of reports of successes, but this shows a little of the other side.

I used the emetine in four other cases. One patient, I felt, was greatly benefited, two somewhat so, and the other showed no apparent results.

GAYLORD MCCOY.

Joliet, Mont.

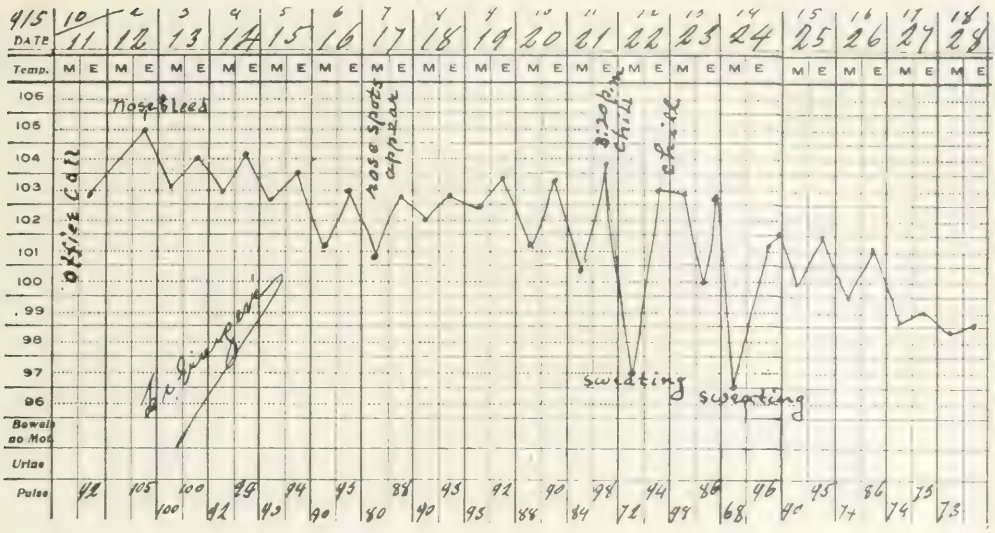
[We are thankful to Doctor McCoy for giving us this record of experience. We could not hope that emetine would prove a true "specific" for typhoid fever—and we have so stated repeatedly. However, the reports that have come to us, regarding the benefit following its use in cases of this kind have been and continue to be most encouraging. It may be that if Doctor McCoy could have given the emetine earlier he would now have a different story to tell. We should like to know what Doctor Frazier thinks about this point. Our memory is that in his paper in *The Medical Record* he dwelt with considerable emphasis upon the importance of early treatment. Furthermore, we must not overlook the fact that Doctor McCoy secured good results from the emetine treatment in several other cases. Let us have both sides, and get the real truth as to the field and limitations of this remarkable alkaloid. We want to know, all of us, just when to use it, and how.—ED.]

EMETINE AND THE SULPHOCARBOLATES IN TYPHOID FEVER

I am sending you the temperature-chart from one of my recent cases of typhoid fever. I ask the readers of CLINICAL MEDICINE to study it and then draw their own conclusions as to whether the emetine was responsible for the good result obtained, or the intestinal antiseptics and echinacea, which this patient received at the same time.

The patient, a driver, is 26 years of age, is well built, well nourished, weighs 190 pounds, and never has been sick. At my first visit, I found that he had a pale tongue, bad-smelling breath, a temperature of 102.8° F., and a pulse of 92, with respiration rate of 32. He had no pain or tenderness in the abdomen; spleen and liver were normal.

In examining this chart, I ask that you take special notice that the patient received his first injection of emetine in the evening of October 12, after having the bowels thoroughly cleaned out and with the sulphocarbolates-treatment instituted. From that time on, the patient received two injections of emetine a day (1-2 grain each time), until the 19th of October; from which time on he received them once a day, until the 21st.



Temperature chart of the first case of typhoid fever reported by Doctor Giorgess

Then he had his first chill, apparently without any cause. Thereupon I omitted the injections for two days, but resumed them, at the rate of once a day, until the 24th. I gave a total of 18 injections, of 1-2 grain each dose. I used the dosimetric trinity at the time this patient was taken with the chill, repeating every half hour, for only four times. In my opinion, this case is interesting, in view of the use of the emetine, the appearance of the chill, and the subsequent defervescence.

The diet throughout was milk, given in association with galactenzyme. Panopeptone was also used throughout the course of the disease.

JOSEPH GIORGESSI.

Brownsville, Pa.

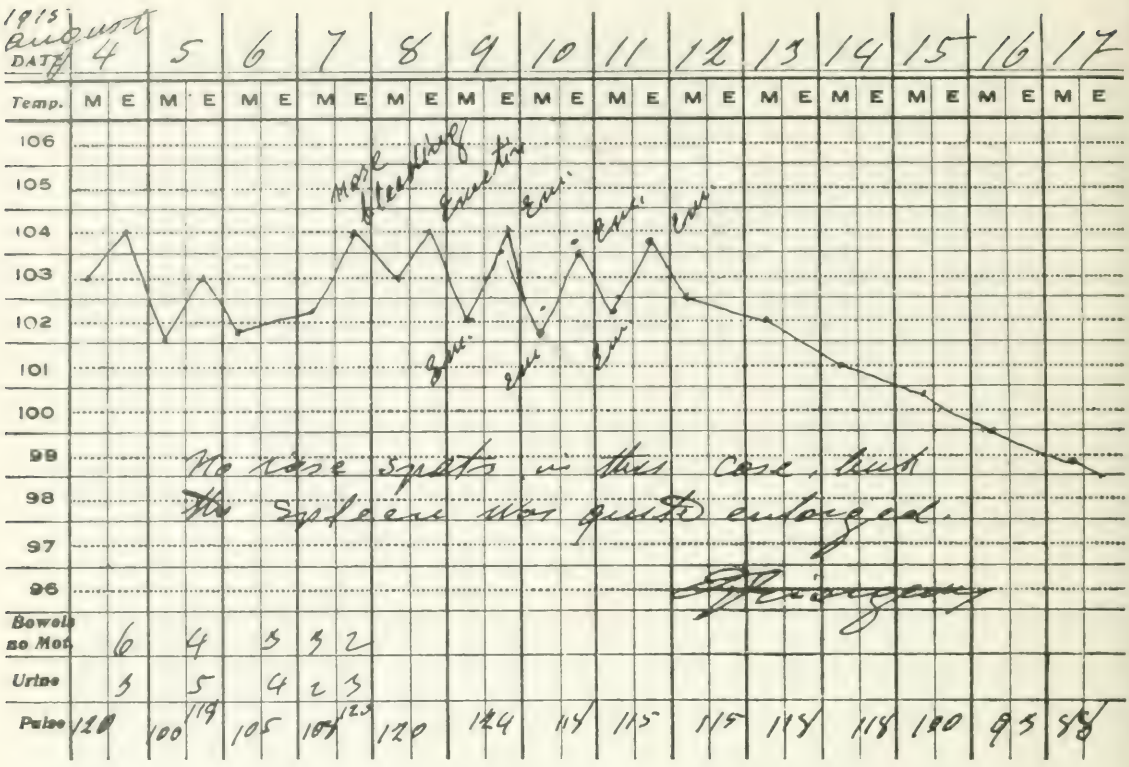
[Read the other articles upon the use of emetine in typhoid fever which accompany this.

LATER.—Since the preceding was written and in type, we have heard again from Doctor Giorgessi, who desires to report another case and present another temperature chart. He says: "The enclosed card will give you an idea of another case in which emetine was used, occurring in a boy of 10 years. He had been feeling ill and feverish for three days before I was called, complaining of pain in the stomach and no appetite. Tongue was badly coated; stomach and abdomen very tender, the latter markedly tympanitic; rapid pulse, and fever as shown by the chart. At first I thought the case one of acute gastroenteritis, and treated accordingly, cleaning the bowels with small doses of calome followed by a laxative saline, then giving bismuth. However, on the fourth day the little patient began to bleed profusely from the nose, and temperature mounted to 104° F. This led me to suspect typhoid fever, so, without losing time, I went ahead with the emetine injections, also giving the sulphocarbolates and copper arsenite internally. The chart shows the result. The patient's surroundings were most unsatisfactory—and my fee is still a long way off. However, I am content."

It is to be regretted that we have no report of Widal reaction in this and the accompanying cases; but they are very interesting, nevertheless.—ED.]

MORE EXPERIENCE WITH EMETINE IN TYPHOID FEVER

Since the publication of my recent letter in the October number (p. 956), I have had occasion to employ emetine in a few more cases of typhoid fever, about which I want to tell. One typical case was that of a boy of 14 years. Among the prodromal symptoms of the disease present, were tympany, nosebleed, and gradual rise of fever, and quinine had given no relief. I then put him on the intestinal antiseptic (sulphocarbolates), and gave emetine hydrochloride hypodermically, 1-2 grain night and morning; and in forty-eight hours his temperature was normal. He was convalescing nicely, but two weeks



Temperature chart of the second case of typhoid fever reported by Doctor Giorgessi. (See preceding page)

later, after an indiscretion in diet, he experienced a typical relapse; however, hypodermic injections of emetine brought the temperature to normal again in three days. Ten days later, a second relapse occurred, but emetine shortened the attack, and he was out in two days.

Next, I was called to a boy 9 years of age, after another physician had been treating him for a week for typhoid fever. There was marked tympanites; his nose was bleeding freely and he also was vomiting blood; the temperature was 104.5 degrees. Under the emetine-course, his temperature returned to normal in thirty-six hours, after which he went on steadily to recovery.

My third patient was a man who had been sick a week when I was called, and he had been given large doses of quinine. He had a temperature of 104.5° F.; pulse of 120; marked tympanites. I gave him 2 grains of calomel; also, one intestinal-antiseptic tablet every four hours. Emetine, 1-2 grain, was administered hypodermically. I left him some ipecac tablets, one to be taken every four hours. When I saw him again two days later, his temperature was normal.

Patient No. 4 was a young man, who had been feeling "draggy" for the last ten days. There was present pronounced tympanites and bleeding from the nose; the bowels were rather loose. The temperature stood at 104 degrees, the pulse ran 115. I gave him a dose of 2 grains of calomel and ordered one intestinal antiseptic tablet to be taken every four hours. A dose of emetine was administered hypodermically, and I left for him ipecac tablets, one to be taken every four hours. When I saw him the next day at the same hour, his temperature registered 102 degrees. I administered another hypodermic dose of emetine, directing the other treatment to be continued. The following day—that is, forty-eight hours from the beginning of treatment—the temperature was normal. Convalescence was rapid.

The fifth case was that of a 16-year-old boy, to whom I was called one Thursday evening. He had been feeling badly for about three weeks, but for the last eight or ten days he had been "up and down." Bowels were loose. Quinine had been taken. His nose was bleeding freely when I arrived, and he also was vomiting blood. Temperature,

104.5° F.; pulse, 125; decided tympanites; headache; besides other symptoms. I immediately gave him 1-2 grain of emetine hypodermically, and this soon stopped the nosebleed. I prescribed calomel, intestinal antiseptic, and ipecac, all in the same dosage as in the other cases cited. I saw him again at 11.00 o'clock that same night, also the next morning, when there was noticeable but very little change in his condition. The previous treatment was continued. On Saturday, at about 5 in the morning, a profuse sweat broke out, after which the temperature rapidly fell to normal. Up to the time of this writing (the Sunday after the Thursday eve), the patient has had no more fever.

I consider that, in all these cases of typhoid fever, their quick control has been brought about by proper elimination—cleaning of the bowels—aided by the emetine and ipecac.

Be my diagnosis right or wrong, I know of nothing that would have acted as promptly as the measures adopted. But even, if only for the sake of argument, we agree that if all these patients had malaria, it then would have to be admitted that in emetine we possess some potent remedy for the latter protozoic disease. But all of these cases were of the type in which, through thirty years of practice, I have been taught to look for a three-weeks' siege of continued fever; although, it is true, with merely the intestinal antiseptic tablet, in conjunction with calomel, as indicated, I have witnessed a good many of them aborted in from eight days to two weeks.

A professional friend of mine received a telegram, to come for consultation to a town in western Oklahoma where a young man was about to die of typhoid fever. As he was passing my office on his way to the train, he told me about it. I gave him one of my tubes of emetine and Doctor Burdick's letter to me, and suggested that he show it to the attending physician and to insist upon the use of the emetine. The physician at first refused to give the emetine, but finally, on being urged by the patient's father, gave consent. The patient was bleeding so freely from the nose that they were about to plug it, so as to prevent his bleeding to death. The injection of the emetine stopped the hemorrhage promptly and in three days the young man was convalescing. This physician immediately telegraphed for a supply of emetine, to be used in some of his other typhoid-patients, although in the first case he had used it only under protest.

Chelsea, Okla. J. S. CARRIGER.

[I hope that every member of the family will read this letter in connection with those that accompany it—and then draw his own conclusions! Unfortunately, the laboratory diagnostic tests were not made in any of these cases (at least, we presume they were not), so we are not in a position to state positively just what the trouble was in each instance. It may be that Doctor Carriger, like Doctor Frazier—an Idaho physician, who first reported on the use of emetine in typhoid fever—has been dealing with a different type of disease from some of the others who have reported. At any rate, Doctor Carriger's results are definite enough to warrant considerable optimism. Anent his remarks about malaria—why doesn't someone try emetine in that disease?—ED.]

ANOTHER MAN SUCCESSFUL WITH EMETINE IN TYPHOID FEVER

I desire to report four cases of typhoid fever treated with emetine hydrochloride. This was given in 1-2-grain doses, hypodermically, night and morning. The results obtained were startling. Two cases were jugulated during the first few days of the attack and the other two began to clear up from the first day of treatment. I may add that, although adopting this course, I did not learn of Doctor Carriger's successes until both of these patients had become very ill—one having been in bed about ten or twelve days and the other one eighteen or twenty.

Doctor Carriger sent me one tube of ten tablets of emetine hydrochloride, and I firmly believe that this saved a young father's life. This man was very delirious and tympanitic. He suffered from profuse epistaxis, and he also had a serious mitral lesion. Both my consultant and I myself had given a very unfavorable prognosis. We gave him an injection of emetine and the epistaxis ceased after the first dose. In four or five days after beginning this treatment, the temperature fell, from 104° F., and over, to normal and even below. This patient, a barber, was in bed only eighteen days and is now back at work and gaining rapidly.

My brother physicians are borrowing emetine from me now, and, while it may seem rash and premature, yet, I do not hesitate to speak boldly and say that I believe intensely in the great value of this alkaloid in the treatment of typhoid fever. For an example: In a neighboring town, there have been some eight or ten deaths from typhoid fever, while

we have lost not one patient here. Results talk.

I do not desire to flatter you, but I do want to express my genuine appreciation of the splendid work you are doing through THE AMERICAN JOURNAL OF CLINICAL MEDICINE. I receive many medical journals, but my CLINIC is the most helpful of all coming to my desk. R. B. HAYES.

Guymon, Okla.

HOMEOPATHY: A COUNTERCRITICISM

For the erudition of your editorial scavenger, who picks up things here and there and in your August issue queries, "Rather late, isn't it, to define Homeopathy?" I would venture to suggest that the homeopathicity of present-day medicine makes such definition particularly timely.

That Myer Solis-Cohen administers tuberculin by mouth and cures through one dose weekly of the 12th *x* (*N. Y. Med. Jour.*, Aug. 9, 1913); that anemonin is indicated in anemic young women of tearful yielding natures, worse at night and by warmth, and better by cold and open air (Redfield, AMER. JOUR. CLIN. MED., July, 1915); that the alkaloidal practice and your valuable and intensely practical journal are largely built on a foundation of the homeopathic indications of bryonia, rhus tox., gelsemium, pulsatilla, aconite, cuprum, and other drugs that you know about; all this does not embounden you to define forever homeopathy and to rant of the century of therapeutic babel out of which has come the present-day trend of medicine.

However, it is thrown upon someone to keep alive the principle and precept of the truth, and *The North American Journal of Homeopathy* may be forgiven for an occational twenty pages devoted to something THE AMERICAM JOURNAL OF CLINICAL MEDICINE may overlook. I am not as well acquainted with the former journal as I am with CLINICAL MEDICINE, not being a subscriber for the same; still, it is fair to assume that the first-mentioned periodical does not devote a score of its leaves in every issue to Homeopathic definition.

The sarcasm of your editorial stumppicker is lost if he stops to make a comparison with the valuable front-page CLINICAL MEDICINE space wasted (?) monthly by repetition of your table of contents and your admonishment to those who already are paying for the very privilege, to "read it."

Portland, Ore. JOHN BESSON.

[We greatly regret that this letter, which was mailed to us some time in August, somehow was lost in transit [this is the author's duplicate] so that it has remained unpublished until now. It should have appeared in our September issue, of course. Certainly, we are glad to give Doctor Besson an opportunity to reply to the little item printed in our August issue. Our regret is that the reply was belated in its appearance. As to his sarcasm—it "never touched us."—ED.]

TWO MORE SMALL BABIES

I have read with considerable interest the various recent reports in CLINICAL MEDICINE regarding small babies; and this leads me to mention that during the last two years I myself have seen two of these very diminutive infants.

The first of these midgets weighed only 1 1-2 pounds when fully dressed. This infant lived to be more than a year old, the cause of its death being pneumonia. This baby was born (in the summer), at full term, after a normal labor.

The second one of these small infants weighed 1 3-4 pounds, nude. It was born after seven and one-half months' gestation. The labor was very easy. This baby is now a little over a month old, but is rather emaciated. It is doubtful whether it can be kept alive, the mother being ignorant and of the type of women who give very little care to their children.

J. M. WHITE.

Barnesville, Md.

STILL ANOTHER VERY SMALL BABY

During the last few months I have seen in CLINICAL MEDICINE several reports about very small babies; but South Dakota lays claim to the record for the smallest baby up to this date.

This baby was born three years ago, weighing, at birth, a scant 1 1-2 pounds, and it was nothing but skin and bones—and certainly not much of these. The child was blue, and it required considerable attention to get it to start to breathe. For a diaper, we used a woman's handkerchief, and a man's finger ring could be slipped over its hand up to the elbow.

The mother secreted no milk; but, even if she had, the child could not have sucked, it was so feeble; and at first, it would take but half a teaspoonful of the milk-mixture at a feeding. The mother, at the time, weighed

212 pounds, and the father is a 6-footer. For the first four or five months, we had a desperate time in keeping this little girl baby alive, but after that she began to pick up, and since then she has always been fairly healthy Today, this child is as lively as any 3-year-

The small baby reported by Dr. E. R. Buck.

old, although slightly smaller than most children of that age. The accompanying photograph was taken when the baby was five weeks old and weighed 2 pounds and 3 ounces.

E. R. Buck.

Sioux Falls, S. D.

RECURRENT ECLAMPSIA

In 1893, I was called to attend a woman in her first childbirth, this being my first visit to that family. She had been taken by eclamptic convulsions, the seizures lasting about fifteen minutes, with conscious intervals, and recurring almost exactly once every hour. With the assistance of a friendly doctor, the uterus was emptied. Several convulsions ensued afterward, but of a lighter type. Mother and child both survived.

In 1895, I was again called to attend this woman, in her second confinement. With her previous experience before me, I attempted to minimize the danger of eclampsia by means of proper diet and treatment. This time, only one light convulsion, lasting but a minute or two, occurred. The child survived. In 1896, the third confinement took place, with but a slight tremor occurring twice during the day. The baby had uncontrollable icterus neonatorum and lived only a few days.

In 1899, I attended her in her fourth confinement, this time there being no indication of eclampsia. The child, though, was emaciated and died, in two weeks, of bronchopneumonia.

The fifth pregnancy occurred in 1901. Upon being told of her condition, she refused to allow any treatment for her albuminuria, saying that she was tired of the whole business and did not care to survive. No persuasion on the part of myself, friends, and relatives availed, and she went to term without any preparation. Labor was initiated with a violent convulsion, from which she never recovered consciousness. With the assistance of a consultant, the cervix was dilated and birth hastened; this proving a twin pregnancy—boys, both of whom were delivered alive. In a few minutes after their birth each of the twins exhibited typical eclamptic convulsions, in which they died. The mother lived for four hours after parturition, dying in a state of coma.

J. A. Settle.

Reading, Kan.

THE CONQUEST OF SMALLPOX BY CALCIUM SULPHIDE IN MEXICO

The grandest and most meritorious work of my life has been performed within the past four months, namely: I succeeded in arresting the most deadly epidemic of smallpox I have ever known, and that without performing a single vaccination; and the death rate was 93 percent before I intervened, which practically was by force, without my having been called by the victims or the rattled official. And I must confess that I embarked on a very unpromising venture. I read up the history of smallpox and about what is known of its ineffective medication. I had in stock a meagre 1000 calcium sulphide granules of 1-2 grain each, and no chance to get more in reasonable time. This was not a drop in the bucket in this urgent need; and I had to employ them so that the value of not one solitary pill would be wasted.

Having used sulphur internally against the oldtime "seven-year itch" with cheering success, it struck my stupid noggin that this chemical should exercise at least a modifying influence upon any cutaneous affliction.

However, I failed to find a word in the history of sulphur, and in that of the treatment of smallpox, that it ever had been employed in that distressing pestilence. Yet, nothing discouraged, I resolved to put my brimstone-theory to the proof.

I started out by thoroughly purging every mother's son, and the parents likewise, resident in the exposed realm. I gave the grown folks a teaspoonful of flour of sulphur every night and morning, and I anointed the bodies of the little ones. I had them repeat the sulphur dosing day after day, while giving enough of a purgative to aid the sulphur in insuring unobstructed clearing of the bowels. I could not order burning of the clothing and bedding, for lack of others to replace them; but I had them boiled. I also had boiling water liberally applied wherever there had been any infection; and everybody still liable to infection was bathed with water as hot as could be borne without causing blistering.

As a fresh case of infection appeared among those previously exposed, I gave the patient calcium sulphide, pushed to saturation and sustained, and alternated with echinacoid. In this manner, every case was effectually aborted, the patients recovering the same as those treated for the prevalent fevers; and they caused no new infections.

Thus, this smallpox epidemic of well-radicated virulence, collapsed at four populous places. At one place, 17 deaths out of fifty people had occurred, in a few days, mostly before smallpox was publicly suspected, the cases having been reported as measles. But not one person died after my calcium sulphide and sulphur and boiling water called a halt to the immolation. Before this treatment was instituted, nearly everyone attacked had died.

ROBERT GRAY.

Pichucalco, Chiapas, Mexico.

[The preceding statement is copied from a personal letter recently received from Doctor Gray. Just think of the terrific load this man is bearing. Despite his advanced years, valiant Doctor Gray is doing more for the relief of suffering, under conditions which would appal the average American physician, than any man I can think of.—ED.]

DOCTOR GRAY'S LIFE-STORY

I am following with intense interest Doctor Robert Gray's story of his adventureful life, as now running in CLINICAL MEDICINE, and I am sure that other readers feel about the same as I do. I like his life-philosophy and the many beautiful thoughts he brings us, but, when, in the November issue, just at hand, he tells us that he would like to leave this life by "forgetting to wake up some fine morning," I make free to dissent. No, sir; that isn't the way Doctor Gray should go out of this world, at all. If I were this medical hero, I should want to go to bed some night, dead-tired after a hard day's work, and wake up in the morning dead, yes, *but not tired*—and go right on to work, work, work.

That's the kind of death that would suit me. And I am very sure it would suit the good Doctor 'way down in torrid, tempestuous, fever-ridden, pitiful Mexico.

OLIVER O'BAR.

St. Louis, Mo.

ALNUOID FOR PIMPLES IN YOUNG GIRLS.—TUBERCULOUS CONDITIONS

For clearing up the pimply skin of young girls, I find nothing better than alnuoid. I have seen statements that this drug should be withheld during menstruation; however, I give it right through the period and find that, if there is any irregularity, it helps the trouble.

I am using the combination of nuclein solution, guaiacol carbonate, and calcidin in the treatment of tuberculous conditions, and it has proved a winner with me. I hope other readers of CLINICAL MEDICINE will try it and report their results.

W. F. WEIKEL.

Middletown, O.

INTESTINAL WORMS AS A FACTOR IN PELLAGRA

The following is a copy of an article that lately appeared in *The Commercial Appeal*, of Memphis, relative to pellagra provings in the state of Mississippi, which is of more than passing interest, viz.:

Eleven convicts at the Rankin (Mississippi) state prison farm—seven of them serving life sentences—today (Nov. 1) were granted full pardons by Governor Brewer as a reward for submitting to prescribed tests by United States Public Health Service authorities to determine the cause of and the cure for pellagra. A twelfth member of the prison "pellagra squad" was released a few months ago because of a physical breakdown.

The granting of freedom to the eleven prisoners followed an official announcement by the Mississippi State Board of Health that experiments conducted at the convict farm under direction of Dr. Joseph Goldberger and his assistants had dem-

Five cases of pellagra in one family. Reported by Doctor Nason.

onstrated that pellagra is produced by an unbalanced ration and that Doctor Goldberger was convinced the disease could be cured if the patients were given proper food. The results of the experiment are considered by prominent physicians in this section as of exceptional importance in the prevention and treatment of the disease, which, in recent years, it is declared, has been increasing the death rate in Mississippi and several other southern states. Physicians stated steps will be taken to introduce the diet treatment for pellagra into various sections where the disease is prevalent.

The experiment was begun February 15, 1915, with twelve prisoners, each of whom was promised a pardon if he would follow during a stated period a diet prescribed by Doctor Goldberger. The diet excluded milk, fresh lean meat, eggs, peas and beans. A diagnosis conducted today by Doctor Goldberger and four Jackson physicians showed, it was announced, that six of the prisoners in the squad have pellagra in a pronounced form and that two others show symptoms suggestive of the disease.

In issuing the pardons Governor Brewer told the prisoners they were free to leave the convict farm if they desired, but he urged them to remain several weeks and be nursed back to health. Of the eleven convicts granted their freedom, six were serving life sentences for murder, one a life sentence for criminal assault, one had ten years yet to serve for manslaughter, two about five years each for embezzlement and one about four years for bigamy.

The "pellagra squad" was under the personal supervision of Dr. G. A. Wheeler, assistant surgeon of the United States public health service, who remained on duty constantly from the beginning of the test. The prisoners were given the usual prison fare from February until April 23, after which time they were placed upon the diet prescribed by Doctor Goldberger. Up to April 23 none had shown symptoms of pellagra. Throughout the period the state authorities maintained secrecy regarding the experiment because of the fear that relatives of the prisoners under observation might institute habeas corpus proceedings or take other legal steps to have them released from the "pellagra squad."

Those submitting to the test and receiving pardons were: Ernest Atkinson and Woodson Atkinson, from Lincoln County; Ira D. Wray, from Sunflower County; John Brock, from Lamar County; D. W. Pitts, from Tallahatchie County; C. Edward Pickering, from Copiah County; W. M. English, from Bolivar County; John Shows, from Simpson County; Alex Gamble, from Webster County, and Guy James, from Leflore County.

You will remember how last year the same result was obtained in about 50 cases of pellagra at our orphanages in Jackson: the diet was corrected and the pellagra disappeared; thus showing starvation, to have been preeminently the cause. But suppose the alimentary tract infested with living micro- and macroorganisms and these preying upon the individual's mucosa as well as upon his food. What would be the consequence? The same and a worse con-

dition to be amended. Hence, Abbott's slogan and mine: "Clean out, clean up, keep clean, and feed the pauper."

When we clean the alimentary tract thoroughly, then feeding does the work; but without it, it does not. Why? The answer is evident.

Have I tried to cure my pellagra-patients by feeding? Yes! Why did they break down again? This result was not due to the diet, but to a worm-infested alimentary tract; when this was cleared and kept clean and the patient fed on the same diet as before he got well, and has remained well since, although he has had the same diet as before.

I am sending you a photograph of four of a family of seven, five of whom are well: two of the family died. At the time the photograph was taken, in 1911, the male weighed only 86 pounds, while now (Nov. 3, 1915), he weighs 220 pounds. Diet never would have cured him or his family, for they were so heavily infested with ascares lumbricoides that dietetic treatment could be of no avail. The old man, to whom I gave 7 grains of santonin, said this brought a gallon of worms; in fact, he says he will never tell how bad it was. He pulled fifteen worms from his nose and mouth during the summer of 1911, and I was two and one-half or three months getting his alimentary canal free. I began treatment with 2 grains of santonin and increased this cautiously to 7 grains before any visible results were produced. The next day after the large quantity of worms passed, he was like a bird let out of a cage. He took only tonics for most of the remainder of that year (1911) and has taken nothing since (and paid me but little, since he is of the pauper class), thus helping to prove Doctor Goldberger's theory. Yet, we did not have Doctor Goldberger's dietary list until 1914.

Now, will worms take enough food in any form and from any source to starve the individual? Yes; everybody will say. Then I say so, too. But a family dietary is not the only cause of starvation. Look at the lousy calf, wormy hog or colt or horse—or child, if you please. Do they not look starved and yet eat ravenously? Clear them of the worms, then what happens? Do not all alimentary troubles give a skin manifestation, and are we not taught, in treating skin troubles, to look well to the well to the wellbeing of the alimentary tract?

Yes, starvation is the cause of pellagra, no matter what the cause of the starvation. But, dietary errors are not the only causes of starvation, or my horse would get fat and my lousy pig would look better. I do not mean these animals have pellagra, but I mean they look starved, like the man in the photograph, and he was wormy; but, when the parasites were removed he got fat, just as do the animals when they are "cleaned up."

This is just one illustration of many causes of pellagra. Suppose your patient has hookworm-disease or amebiasis of whatever variety. All insane persons in the asylums who have pyorrhea, when treated with emetine, readily improve mentally. Then, is not insanity (melancholia) one symptom of pellagra? Yes, and the worst symptom we have to deal with. Emetine has always improved the mental condition in pellagra; so, also, has Dover's powder, our ideal hypnotic. And, why? Because in these cases the ipecac is synergistic to the opium.

Now, a 16-month's-old child was brought me in July, 1915, displaying all the typical symptoms. I gave santonin, which caused expulsion of one roundworm in two weeks. There was no sign of pellagra. Today the child seems perfectly well. I gave it an iron tonic and fed it.

"Clean out, clean up, keep clean, and feed the pauper."

A. L. Nason.

Maben, Miss.

SALICYLIC ACID AND GUAIACOL INJECTION

Anent the article by Nielsen, in your August issue, page 720, on intravenous injections of salicylic acid and guaiacol, I wish to state that I have investigated this method both by observation, as it is used in a sanitarium, and by some practical experience, and, as a result, I consider these massive doses dangerous in tuberculous cases. In the majority of cases, the reaction is severe and distressing, and the results are wholly bad.

J. A. Hirsch.

Edwardsville, Ill.

ARGYROL USED TO DETERMINE PERMEABILITY OF TEAR-DUCT

In the section of "What Others Are Doing," in the November issue of Clinical Medicine, page 1045, I was interested in a short article in which fluorescein was recommended for testing the permeability of the tear-duct.

May I suggest that argyrol may also serve for the same purpose. Some time ago, I had

occasion to instil the solution into the eyes of several of my patients, when I discovered that, when they blew the noses, they (most of them) had their handkerchiefs stained with brown silver-salt. In others, the expectorated sputum was colored by the drug.

I. A. FINKELSTEIN.

Boston Consumptive Hospital,
Mattapan, Mass.

[This is an interesting suggestion—peculiarly so, because Doctor Finkelstein has such an abundance of material upon which to work. I hope that other readers of CLINICAL MEDICINE will give this method of diagnosis a trial.—ED.]

METASTATIC ORCHITIS

Patient, male, age 64, very obese; severe case of mumps, resulting in orchitis. Received his usual treatment including ichthyol and other topical applications with no apparent benefit. Temperature ran to 103.5° F. I then sent him pilocarpine nitrate, gr. 1-64, and the defervescent granules (No. 1), about ten of each, with instructions to take one of each every hour till fever declined. I also provided granules of calcium sulphide, gr. 1, and strychnine arsenate, gr. 1-50, one of each to be given every four hours.

The results following this medication were magical, and morning found the old gentleman free from fever and quite comfortable. Diaphoresis followed the third dose in this case.

Let anyone who thinks the alkaloids inert just try 'em awhile.

J. J. CHAPMAN.

Nellie, Okla.

HERE IS AN IDEA!

Wouldn't it be nice to remember with an appropriate gift this Christmas the good nurse who has helped you out in some of your difficult cases? It need not be an expensive present, though it should be one which will be preserved and treasured.

Here is just the thing: a gift-book edition of "Ol' Doc Lent, and Other Poems," by Dr. Frank L. Rose.

Doctor Rose is the James Whitcomb Riley of the medical profession. His verses are calculated to drive away dull care and bring one back to the sunny side of things. You really ought to have one of these books in your own library, too, Doctor. It's just the thing for your reception-room table We have a few choice copies bound in limp leather—the Roycroft deluxe binding—which is always a source of joy and satisfaction.

The regular price of this fine book is two dollars "per"; but because you're a reader of CLINICAL MEDICINE and therefore a "good fellow" we will chop the price right in two and deliver these beautiful books, as long as they last, for one dollar each. It can't be beat.

Of course, we have the art-board bindings, which we are handing out at fifty cents each until after the holidays. The price will then be one dollar. Come to think of it, why wouldn't some of your patients enjoy reading "Ol' Doc Lent"? Why not get it for them? Better get busy now.

We presume that you have heard of that famous little booklet, "Backbone." This is without doubt the choicest arrangement of inspirational material that has ever been gathered together between two covers. As Doctor Abbott says, "It contains Hints for the Prevention of Jelly-Spine Curvature and Mental Squint, a Straight-Up-Antidote for the Blues and a Straight-Ahead Sure Cure for Grouch."

This book is the biggest "little" holiday gift that you could possibly give to anyone. The price is only 50 cents a copy or four dollars a dozen.

WHY NOT THE SYRINGE? A COMMENT

In an editorial titled as above and printed in the November number of CLINICAL MEDICINE, you raise some interesting questions. To some of these I venture to offer an answer.

In my opinion, the principal objection to the more general use of the hypodermic syringe will be found in the fact that very little medicine is administered by the physician in person. Doctors, especially in the country, hesitate to entrust the use of the hypodermic syringe to unskilled nurses; and this mainly because of the fear of infection.

Also to boil a syringe every fifteen minutes (under that form of dosage) would, indeed, require "some cooking," not to mention the fact that very often no fire is available. Furthermore, every family in which a patient was treated in this manner would have to have a syringe of its own; and you certainly could not depend upon its being kept in working order.

However, like yourself, I believe that the subdermal is many, many times the best method for introducing remedies into the circulation. I wish someone would tell me

how this method of medication can be made readily and more safely available in ordinary routine medication.

J. M. W. Cannon.

Kidder, Mo.

[Doctor Cannon certainly gets a wrong impression as to our intent in advising the use of the hypodermic syringe. We agree with him, as will every reader of this journal, that it is out of the question to resort to the syringe in all manner of cases, acute as well as chronic. Its applicability is a limited one, and this is particularly true as regards the treatment of the acute diseases in which it is necessary to repeat doses at short intervals. It certainly would be most unfortunate if any doctor should aim to depend upon hypodermic medication in conditions of this character. Where the small-dose-frequently-repeated idea applies, the only way to give drugs, as a rule, is by mouth; and for this the granule or tablet form is the one preferably to be resorted to.

Of course, there are some acute diseases in which hypodermic medication is desirable, occasionally even imperative, as, for instance, in amebic dysentery, where emetine is a specific; or in pneumonia, with strychnine or camphor in oil to aid the failing heart; or in urinary suppression, when caffeine and sodium benzoate may give relief. Quinine injections also are highly recommended for the treatment of malaria, while a great variety of acute diseases are treated by the subcutaneous administration of bacterins and serums. These latter remedies, however, are administered in relatively large doses at longer intervals—never "every fifteen minutes." Also, they are always—or, at least, should be—given by the physician himself, or else by some thoroughly trained and competent nurse acting under his directions.

The main field for hypodermic medication, however, is in the treatment of chronic diseases—and their name is legion. Think of what may be accomplished by an injection of salvarsan or mercury salicylate in syphilis; by iron citrate, subcutaneously, in severe anemia; or by sodium cacodylate in pellagra. So much depends upon the care with which the physician watches the progress of diseases of this nature that it would be most desirable if all would have recourse to this method more frequently, for it enables them to keep these patients under close observation. The man who resorts to the syringe in chronic diseases can have, or he should have a perfect stream of patients coming constantly to his office. When this happens, he can assure his clients the maximum of benefit; and that benefit must accrue to his own financial profit. The doctor's welfare is wrapped up with the welfare of his patients. -Ed.]

SUCCESS IN A CASE OF EPILEPSY

Not long ago, a negro, 19 years old, came to me and said that for a year he had been suffering from daily attacks of convulsions. I put him on the bromides, given in small doses thrice daily, after meals. I also prescribed chloretone in petroleum emulsion, 5 grains per dose, to be taken at noon and at 10 at night. From September 22 to October 24, 1915, this man has been perfectly free from the paroxysms. Yesterday I cut down the amount of the bromides, continuing the other treatment. At present, the patient is markedly improved in health.

I hope this report may prove of value to other sufferers, and I hope that other physicians will give the method of treatment a trial.

E. H. Sholl.

Birmingham, Ala.

[Of course, the period of freedom from the epileptic attacks in this case is too short to warrant the hope that Doctor Sholl's patient has been completely cured. Probably there will be a recurrence of the paroxysms later. However, the experience is an interesting one, and we hope that other physicians may benefit by it.

Personally, this writer feels that alimentary toxemia has much to do with the etiology of epilepsy. Dr. C. A. L. Reed, of Cincinnati, has recently advanced the theory that some specific intestinal organism is responsible for this disease, which he has been able to relieve and even cure in a number of instances by means of surgical intervention, along the lines suggested by Lane for the relief of intestinal stasis.

If intestinal stasis is really a factor in the causation of epilepsy—and we believe it is—then the mineral-oil emulsion used by Doctor Sholl ought to prove of very decided value. Not only does this oil facilitate complete emptying of the bowel, but, according to J. H. Kellogg (see his book on "Colon Hygiene," recently published), it is a highly active solvent and readily takes up the intestinal toxins formed in the bowel; these being far more soluble in mineral oil than

they are in water. In this way, the oil treatment prevents toxic absorption.

We hope that this line of treatment may be followed by others and reported upon more at length by our readers.—Ed.]

SNUFFING MORPHINE VS. INJECTING IT. OLD-TIME GALENICS

In perusing the many good things in the October Clinic, I observe what Dr. Beverley Robinson has to say about sick-headaches. In my earlier years, especially during my childhood, I frequently suffered severely from attacks of migraine, these beginning with the rising of the sun and then continuing throughout the day until sundown, and they were called "sun-headaches." I would have to retire to a darkened room and sleep it off (if I could). These attacks continued to plague me up to and for several years after my arrival at manhood's estate.

After I began the practice of medicine, I found relief by dissolving in a teaspoon 1-8 or 1-6 grain of morphine in 5 or 6 drops of warm water and snuffing the solution up my nose—this, in place of using the hypodermic syringe. And, by the way, I have many times resorted to this method of relieving patients from the toothache, neuralgia, colic, and such when I did not have my hypodermic syringe at hand; the anodyne effect being as speedy and equally as effective as if given hypodermically.

I also read with interest what Doctor Young has to say about "The Medicine of Tomorrow." And right here I rise to remark that, notwithstanding I have fallen into the line with the procession of practicians in general, in the use of the active principles of the vegetable medicinal agents, still I look back with a lingering regard for, and a strong faith in, the efficacy of the older galenical preparations, when physicians prepared their own tinctures, syrups, elixirs, confections, cerates, powders, and pills, and dispensed their own medicines. If a physician of the old school today should send a prescription to the average drugstore for some of those oldtime, but valuable, preparations, such as Hopkins' elixir and elixir salutis, or for some of the other oldtime preparations, there would be found many druggists who could not furnish them, and there even would be some, perhaps, who had never heard of them. Still, adulteration and sophistication of drugs has become so general of late years that it undoubtedly would be difficult for the general practician to obtain reliable drugs. In those days, when a physician put up his own medicines for a patient, he didn't prescribe gratuitously for the whole neighborhood, as too often is the case when a prescription is sent to some druggists.

"Oldtimer."

[Some time ago one of our readers gave the same suggestion, i. e., that morphine might be snuffed into the nose, when a hypodermic syringe was not handy. At that time we discouraged this plan of medication; and we must do so again. Both cocaine and heroin are being taken in this way by thousands of addicts, who find the method altogether too convenient. Let us not make it any easier for the layman to use morphine. In justice to the good brother who makes this suggestion, however, it should be explained that he advises great circumspection in the administration of morphine. In a personal letter of explanation, he states that when this snuff is provided the patient is never allowed to know the nature of the drug prescribed. Perhaps it is a good thing to remember that in default of the syringe the nasal route *may* be used.

And so "Oldtimer" sighs for the "good old days" and the "good old remedies." It was always thus. "When we were boys" the skies were always blue; the apples were bigger and redder then; and mother made the best doughnuts—far better than anyone knows how to make in these degenerate days. That is the way it looks to us—now! Same with drugs. We forget the enormous doses necessary, how vile they were to take, and how our patients damned us for the awful pukes and purges that we forced down their unwilling throats. When I think of some of the stuff I gave the babies then I wonder if they remember me still!

Contrast the accuracy, elegance, and palatability of the modern tablet or granule of an active-principle. Think of the efficiency of this form of medication, and then recall the uncertainty of the old stuff. After all, doctor, I know *you* wouldn't take the back step.—Ed.]

Next Month and Next Year

WE HAVE planned for a very interesting year in 1916. Beside our regular departments, we have arranged for several new serials, two or three symposia on topics of timely interest, and some novel features that will be new to medical journalism.

The following serials will appear during the year, most of them beginning in the January issue:

The Diseases of the Prostate and Their Treatment. By Dr. W. J. Robinson.

What the General Practitioner Can Do for the Chronic Diseases. By Dr. George F. Butler

How Surgical Emergencies Are Handled by the Great Corporations. By Dr. S. C. Beach.

Adventures of a Frontier Doctor. By Dr. Charles Stuart Moody.

Medical Gynecology for the General Man. By Dr. George H. Candler.

Biologics, and How to Use Them Successfully. By Dr. W. C. Wolverton.

We shall also continue the two splendid serial articles now running in CLINICAL MEDICINE:

An Old Doctor's Life Story. By Dr. Robert Gray.

The Letters of Doctor Leonidas Playfair. By Dr. A. H. P. Leuf.

We have arranged for two symposia in which every reader of CLINICAL MEDICINE is invited to participate.

Sore Throat. All kinds of sore throat will be discussed—diphtheria, in all forms; streptococcic, or septic sore throat; tonsillitis; "quinsy"; croup; tubercular laryngitis—everything of the kind interesting to the general practitioner. We shall concentrate on the practical phases of these diseases.

Biologic Therapy. This symposium will probably be printed in our March number. It will present a thorough review of the wonderful progress in this wonderful field. It is expected that many of our readers will participate in it. *You* are invited to do so.

Beginning with the January issue we shall introduce the following features:

Feuilleton. This will consist of a succession of stories, poems, anecdotes, and other matter not of strictly professional character. It will be set in small type and run in the advertising section. The first to appear will be a continued story, especially prepared for CLINICAL MEDICINE, entitled "The New Utopia." The author is Dr. Edward N. Reed.

State Board Problems. From month to month we shall print the questions proposed at the various state board examinations, with answers. We shall also present all possible information relative to new laws, reciprocity, and the like

A number of special articles are already in our hands, many others arranged for. Among the topics are the following:

The Treatment of Cystitis. By Dr. George H. Candler. This will appear in January.

Catarrhal Deafness and How to Treat It. By Dr. Burton Haseltine. Probably in January.

Hyperchlorhydria and Its Treatment. By Dr. A. L. Benedict. Probably in January.

Cosmetic Surgery. By Dr. Ralph St. J. Perry. Probably in January.

Cysts of the Tongue in Infants. By Dr. A. R. Hollender.

More About Our Vegetable Drugs. By Dr. Finley Ellingwood.

What We Can Learn from the Great War.

What Others Are Doing.—In this department we shall present everything new that is of value in practical diagnosis and treatment, gathered from the journals of the entire world. We shall tell about

Carrel and Dakin's New Antiseptic

How the Problem of Pellagra Is Being Solved

The Rockefeller Institute's Wonderful Work on Pneumonia

Rosenow's Discoveries as to the Causes of Infectious Disease

Emetine and Other Alkaloidal Wonder-Workers

Queries and Answers.—This department has always been very popular. It will be made even more so, giving opportunity for every subscriber to secure practical, personal help in all his difficulties.

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As to our regular departments, little need be said. You know what they are, and appreciate what we are trying to do for our friends in the medical profession. CLINICAL MEDICINE has always been an open forum for the expression of opinion. It invites discussion, and seeks the cooperation of all its friends. It tries to get very near to the heart of the doctor, *as a man as well as a practitioner.* "To do good is our religion."

We believe 1916 will be our biggest and best year. Won't you help us to make it so?

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, *A. M., M. D.*

ON OCTOBER the 20th, 21st, and 22nd I attended the meeting of the Mississippi Valley Medical Association at Lexington, Kentucky, and it was one of the best meetings I have attended for some years. This meeting seemed to prove that there is a revival of interest in therapeutics, as the treatment of disease was discussed fully in nearly every instance where treatment of diseases was referred to.

Two of the most interesting features of the meeting were the address of Dr. Richard P. Strong, of Baltimore, who led the American Red Cross Sanitary Commission in the fight against typhus fever in Serbia, and the address of Dr. Hugh Cabot, president of the Association, on "Medicine, a Profession or a Trade."

Doctor Strong had been back from Europe but a week and his address was the first public address on his experience in Serbia.

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"We have heard much in this country of the subject of the preparedness in case of war," said Doctor Strong. "One important phase of this subject should be, the question of the preparedness of our physicians to deal with the problems relating to the hygiene of camps and large bodies of troops therein, and to the prevention of epidemics of infectious diseases, particularly such as typhoid fever, malaria, and other fevers among them." "Systematic sanitation" may well sum up the methods employed by Doctor Strong in his heroic fight against typhus in the war-ridden country of Europe. Typhus he denominates the severest epidemic disease the world has perhaps known in modern times; but with his assistants and collaborators he generously divided the honors and gave the credit for the accomplishment of the great work accomplished in Serbia.

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"Effective measures for combating epidemics of typhus fever primarily must be based," he said, "upon the destruction of lice and their eggs, though obviously secondary measures are necessary." The secondary measures included thorough and effective bathing of hordes of Serbian civilians and soldiers, and their segregation in disinfected wards, quarantined from a second contagion. The methods of bathing, the disinfection of clothing, and the recital of the trials of the commission aroused general interest in his paper. Permanent disinfecting-plants had been established in Serbia, said Doctor Strong, and the sanitary condition of the army and even of the people, after the practically wholesale cleanup, was excellent. There remained, however, he said, much work in Serbia to be done—where medical men are yet in great demand—to prevent a recurrence of the epidemic or of other epidemics. Only those who were sincere and strong of heart should make the sacrifice, he said, for they should be aware of the fact "that there are no comforts or luxuries in Serbia, and they must go with a missionary-spirit."

The bulk of his address was spent in narrating the interesting history of epidemics which have swept the earth. Doctor Strong had his elementary training in the Philippines against malaria, yellow and other fevers, did his first great work in Manchuria, when he eradicated a species of the bubonic plague, the pneumonic, which claimed a mortality of 100 percent among the people, and returned to America to assume the responsibilities of the commission and direct the delivery of the Serbian people abroad.

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After giving an intensely interesting history of former plagues, such as the black plague of 1348, the plague in London of the 17th century, the typhus plague of Egypt, and so on, he took up in detail the recent epidemic of typhus in Serbia, from which I quote from matter printed in *The Lexington Herald*.

"The epidemic of typhus fever which recently raged in Serbia was the most severe one which has occurred in modern times. A few cases of typhus had occurred in Serbia in October, 1914, but the disease did not make its appearance in epidemic form until Janu-

ary, 1915, and then in the northwestern part of the country among the Austrian prisoners, who were greatly crowded together and who necessarily were compelled to live under very insanitary conditions. The disease quickly spread from them to other individuals, and, as the infected patients and the districts in which they were situated were not quarantined and the Austrian prisoners and infected individuals were sent or allowed to go to various parts of the country, Serbia was soon afflicted with a terrible and widespread epidemic.

"The country, weakened by wars, was not prepared for an epidemic, and for a time one might say that the typhus raged almost at will. The majority of the small number of Serbian doctors sooner or later became afflicted with the disease. Those who remained well were occupied with treating the sick and also the wounded from the battlefields, and methods for prevention were impracticable or were not undertaken.

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"Wounded soldiers or those afflicted with minor ailments or diseases, with relapsing fever, wandered into the hospitals at will and entered the wards filled with cases of typhus, sometimes occupying the same beds, for it was not unusual for two or even three patients to be found lying in the same bed, and the available floor space was also filled with patients with no beds.

"The epidemic increased through January, rose more rapidly in February and March, and reached its height in April, when the number of cases was in the neighborhood of 9000 per day. These figures are only approximate, for when I reached Serbia in April there were no available statistics of the number of cases or deaths in the various cities, and only the approximate number of cases present in military hospitals were known.

"The American Red Cross, in addition to the hospital units it had already sent for Serbian relief work, decided to organize and send a sanitary commission for the purpose of combating the disease. The Rockefeller Foundation from the first was interested in this commission and generously supported it in conjunction with our Red Cross.

"Great Britain, France, and Russia also recognized, largely from a military standpoint, the extreme gravity of the epidemic and the frightful ravages caused by it and quickly organized, equipped, and sent expeditions for checking it.

"Owing to the ravages which the epidemic had made, almost complete demoralization had resulted in many parts of Serbia. So many efficient officials had succumbed that a number of the remaining ones had become discouraged, and at times they remained gloomily at home rather than go to their offices.

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"One of the first and most immediate problems which confronted me after my arrival in Serbia was that of central organization, with control and absolute authority in sanitary matters throughout the country. This I was able to secure through the establishment, with the consent and aid of the government, of an international sanitary commission, whose resolutions were immediately enforced through the ministers of the interior and of war.

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"The country, for sanitary purposes, was divided into fourteen districts. To seven of these, the French, British, and Russian physicians were assigned stations, and to the remaining seven the American physicians, all of whom worked under the central organization. A system for securing information regarding the occurrence of cases of typhus and other infectious diseases in each city and village throughout Serbia was established. House-to-house inspections for the finding of cases of typhus in the cities, with the removal of the patients to the hospitals and wards devoted to the care of typhus cases, disinfections of such individuals, disinfections of other inmates of such houses in which cases of typhus had been discovered as well as of their clothes, and, finally, disinfection of the houses themselves was also systematically begun. Quarantine of individuals who had been in contact with typhus cases was undertaken, after disinfection of their persons and clothing. In a number of such instances these were cared for in tents sent by our Red Cross where houses were not available as detention camps.

"In some instances the districts were so badly infected that it was necessary to evacuate them *en masse* and to destroy by partially tearing down and by fire the majority of the dwellings. Dispensaries were established in the different cities and the people were treated free of charge. These measures proved a great aid in the finding of cases of infectious diseases.

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"As typhus is conveyed from man to man commonly by the bite of the body-louse, the bathing and disinfection of their clothing in a short period of time was an important problem in combating the disease For this

purpose, sanitary trains, consisting each of three converted railroad-cars, were fitted up. One car contained a huge boiler, which supplied the steam for disinfection of the clothing. In a second car, fifteen shower-baths were constructed. A third car was converted into a huge autoclave (disinfector), into which steam could be turned under atmospheric pressure. In this manner the vermin were immediately destroyed, and the clothes thoroughly disinfected.

"Large tents were erected beside the railroad sidings, on which the cars were placed. The people were marched by the thousands to these tents, their hair was clipped, and then a limited number undressed themselves, carried their clothes to the disinfecting car and then passed to the car containing the shower-baths. After a thorough scrubbing with soap and water they were sprayed with kerosene, as an estra precaution for destroying the vermin. They then received their meanwhile disinfected clothing. In many instances, when the clothing was very badly soiled, fresh clothing was supplied. Many of these people stated that they had not bathed for ten months or longer. Their faces, in some instances, betrayed surprise and in others fear when the water touched their bodies.

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"In the larger cities and in those situated away from the railroad, disinfecting- and bathing-plants were established or constructed, and separate hours were arranged for bathing women and men in large numbers.

"In many towns the clothes were disinfected by baking them in ovens, either constructed for this purpose or in those which had been built previously for the baking of bricks or other purposes. As all the hospitals were infected, it was necessary systematically to disinfect these and the inmates.

"The patients first were removed from a ward, which was then thoroughly disinfected. They were then given a bath, by being scrubbed with soap and water and "phanlos" oil (?). They were given clean clothing and placed in the disinfected ward. Their old clothing was usually boiled. The wards were first disinfected by means of sulphur fumigation, to kill the vermin. Beds were then removed and disinfected. Walls, ceilings, and floors were then scrubbed with a solution of bichloride of mercury or carbolic acid. In many instances the interiors of hospitals were thoroughly whitewashed.

"Through the International Sanitary Commission at Nish, the most complete and cordial cooperation was secured between the French, British, Russian, and American sanitarians working in Serbia.

"Largely through the combined efforts of all these workers and with the cooperation of the Serbian physicians and officials, the epidemic rapidly declined, and for the last three weeks before my departure from Serbia we could not find a fresh case of typhus. The sanitary condition of the army and of the people was then excellent.

"I trust that the sanitary demonstrations as to the prevention of typhus which have been given the Serbian people and the construction of the various permanent disinfecting-plants throughout the country will prevent the occurrence of another epidemic of typhus such as we have just witnessed, and which destroyed in the neighborhood of 150,000 people. All of the Serbian hospitals had been thoroughly disinfected before I left that country and are ready for the reception of the wounded.

"Serbia, however, is still in great need of medical men, and, as fighting has been resumed, she will not have a sufficient number of physicians, surgeons, and nurses alone to care properly for her wounded. As relapsing fever and typhus are epidemic in the Balkan states, the situation must be watched, and any outbreak of these diseases will require prompt and efficient measures to prevent another epidemic. Therefore, physicians will find plenty of relief work to do in Serbia this winter. Those going, however, should be aware of the fact that there are no comforts or luxuries in Serbia and should go with a missionary-spirit.

"We have heard much in this country of the subject of preparedness of our country in case of war. One important phase of this subject should be the question of preparedness of our physicians to deal with the problems relating to the hygiene of camps and large bodies of troops therein, and to the prevention of epidemics of infectious diseases, particularly such as typhoid fever, malaria, and other fevers, among them. I trust you will pardon me if I take the liberty of reminding you on this occasion that Harvard University offers, through its courses in the School for Health Officers, and particularly in those relating to preventive tropical and exotic medicine, what we believe to be an almost ideal training work of this nature. A number of the members of the American Red Cross Sanitary Commission to Serbia were efficiently trained in this school."

Among the Books

ELLINGWOOD: "MATERIA MEDICA AND THERAPEUTICS"

New American Materia Medica, Therapeutics and Pharmacognosy. By Finley Ellingwood, M. D. With a Practical Consideration of the Principles of Pharmacy and Pharmacognosy by Professor John Uri Lloyd, Ph. M., Ph. D., LL. D. Published by Ellingwood's Therapeutist, 32 North State Street, Chicago. 1915. Price $5.00.

For many years Doctor Ellingwood has been known among the profession in two conspicuous capacities—as the militant champion of positive therapeutics and as the enthusiastic advocate of the indigenous vegetable drug. He has fought therapeutic nihilism, tooth and nail, in season and out of season, in high places and low places. He has no less vigorously proclaimed the pharmacological and therapeutical virtues of the American plant.

In this book will be found the sublimation of these two passions of its author, reduced to rational, scientific system. It represents an attempt—and a very successful one—to set forth "a definite, advanced, accurate and reliable knowledge of the action of those agents which are made from the plant, in whole or in part." The reviewer would search long and far before he found a more apt or adequate characterization of the work than these words from the author's own preface. Not that the mineral drugs are omitted or even neglected. But the vegetable drugs are the *raison d'etre* of the book, and especially the indigenous plants.

Such a work is peculiarly timely. The European war has so seriously shut off the supply of foreign drugs that the attention of the American physician has been forced upon American products, and he is learning that his own country's products are, to a great extent, ample for his needs. This state of affairs calls for a book on materia medica which will furnish the profession, upon a plane commensurate with modern demands, the result of investigations, observations and experimental uses of this class of medicines. And Doctor Ellingwood has met the demand.

Every statement in the book has been carefully weighed. Every fact has been estimated fully, in order that it shall be accurate. The best-known authorities have been consulted, so that the work may at once be recognized as highly authoritative in every particular. The result is a highly practical and up-to-date textbook of materia medica and positive therapeutics which will delight the heart and contribute to the success of every practitioner who believes in his calling. The section on Pharmacy and Pharmacognosy, by Professor Lloyd, it is hardly necessary to say, adds immense value to the work.

TODD: "SURGICAL AFTER-TREATMENT"

A Practical Handbook of Surgical After-Treatment. By Alan H. Todd, B. Sc., M. S. New York: Longmans Green & Co. 1915. Price $1.25.

The author points out, in his preface, that after-treatment is much more than an incidental accompaniment of modern surgical procedures; still, it plays an important part in all of them, and in some it is the absolute determinant of success or failure, as, for example, in orthopedic surgery and in the various kinds of plastic operation, which are quite wasted unless the after-treatment is properly prescribed and carried out. The old idea, that kindness and sympathy and considerate attention to the patient constitute all the essentials of postoperative care, no longer holds water; a considerable amount of technical knowledge and skill is required as well.

Doctor Todd's book is an attempt to provide instruction of a purely practical character in this matter. It is based upon the author's own extensive experience as dresser, house-surgeon and registrar in Guy's Hospital, London. All unnecessary and superfluous matter has been omitted, besides all theoretical considerations, except where these have seemed essential to a proper understanding of the treatment, recommended. Neither have the rival merits of different methods been discussed, but those have been selected and presented which to the author seem to be most in accord with our modern

principles of physiology and have proved most successful in actual practice.

PRACTITIONER'S VISITING LIST

The Practitioner's Visiting List for 1916. Records of Practice for Thirty Patients per Week. Philadelphia and New York: Lea & Febiger. Price $1.25.

This visiting and record book has attained a national reputation. In addition to the ruled pages set apart for the patients' accounts, there are separate sections for records of obstetric cases and engagements, vaccinations, births and deaths, and a whole fund of miscellaneous reference and emergency information, including a list of poisons and their antidotes, a complete table of drug remedies and their doses, an alphabetical index of therapeutical reminders, and a description of the technique of ligating arteries. It is, therefore, much more than a mere visiting account book; it is a *vade mecum* for the busy practitioner.

The physical qualities of the book are all that could be desired. It is strongly and handsomely bound in red morocco, with a folding flap and printed on excellent paper. It holds its own with the best of this type of book, and maintains the high standard set by itself.

BAINBRIDGE: "THE CANCER PROBLEM"

The Cancer Problem. By William Seaman Bainbridge, B. Sc., M. D. New York: The Macmillan Company. 1914. Price $4.00.

The author believes that much of the mystery that surrounds the subject of cancer, much of the ignorance concerning it, both within and without the profession, is a result of the chaotic condition of the literature upon it—a belief in which the reviewer heartily concurs. As Doctor Bainbridge very pertinently says, the acquirement of dependable information concerning any phase of the question entails tedious search through many books, pamphlets, and periodicals. To give a clear, concise, comprehensive, and available résumé of the world's work with reference to cancer, its history, distribution, etiology, diagnosis, possibility of prevention, and treatment, besides the various minor matters connected with the subject, is a most difficult task; and it is to this task that Doctor Bainbridge (who is professor of surgery at the New York Policlinic Medical School and Hospital) has addressed himself in this volume.

The book is, of course, more of a treatise than a practical or clinical textbook. It states theories, emphasizes facts, reviews the work and opinions of those who are qualified to speak, and maintains, throughout, an attitude of "suspending judgment pending proof." No attempt is made to give a complete work on the treatment of malignant neoplasms; that, manifestly, is outside the scope of the book.

PHYSICIAN'S VISITING LIST

The Physician's Visiting List for 1916. Sixty-Fifth Year of Its Publication. Philadelphia: P. Blakiston's Son & Co. Price $1.25.

The publishers are justly proud of the longevity and stability of this little visiting book. During the sixty-five years of its existence it has made long journeys in the saddle-bags and buggies of country doctors and in the more modern cars of the twentieth-century practitioner. It has been at the birth and by the deathbed of rich and poor, famous and infamous. Its volumes hold the records of numberless physicians. It has gradually adapted itself to all the vicissitudes and revolutions of medical practice, and is just as adapted to the present day as it was to the conditions of half a century ago. No doubt many of our readers belong to the long chain of those who have used this excellent little record-book from year to year, and they will welcome the issuance of the 1916 edition. Many new buyers will find out its merits for the first time during the coming year.

DONCASTER: "DETERMINATION OF SEX"

The Determination of Sex. By L. Doncaster, Sc. D. Cambridge: The University Press. New York: G. P. Putnam's Sons. 1914. Price $2.00.

The study of sex has not yet reached a stage where it is possible to give any settled account of established facts or of generic inferences to be drawn from them. Everything that can be said on the subject, for the present, is of a more or less controversial nature. It has been approached from several different angles and by many lines, all of which lines may be said to converge toward each other, although they have, as yet, given no indisputable indication of a focal point. In view of this state of affairs, the author of this book has not hesitated to give his own

interpretations of the data surveyed by him and to criticize those of others; in this way presenting something more than a mere summary of the state of our knowledge to date, lending it the interest and value of a scrutiny and a discussion as to probabilities.

The treatment of sex problems is confined entirely to animals, including Man, all reference to the work done on plants being purposely omitted, because the problems raised by plants are in many respects different from those of animals. Technical nomenclature is avoided as far as possible, but of course could not be wholly side-stepped. Where it is used, the author has usually explained it before using it, and has defined most of the terms in a glossary. The aim of the book, which is well carried out, is to discuss all the more important evidence bearing on the problem of sex-determination, illustrating each line of evidence by one or more typical examples.

PARSONS: "COLOR-VISION"

An Introduction to the Study of Color-Vision. By J. Herbert Parsons, D. Sc. Cambridge: The University Press. New York: G. P. Putnam's Sons. 1915. Price $2.75.

Several years ago, Dr. George Talbot, of Newton, Massachusetts, in an able and thoughtful article, propounded the theory that it is the color-sense alone which gives distinct visual impressions, and that, consequently, the color-sense is identical with—in fact, constitutes—visual perception. His arguments, to our thinking, were sound in their premises and flawless in their logic. Visual perceptions, he pointed out, are the result of undulations of different wave-lengths producing more or less rapid oscillations of the rods and cones. From this, the conclusion is irresistible, that visual perceptions are the effects of color-waves upon the retina; which is the same as saying that color-sensation is visual perception.

We said at the time that we did not expect Doctor Talbot's views to receive very immediate adoption or even recognition, because established doctrines die hard. Unless we are greatly mistaken in our reading of Doctor Parson's present book, the identity of color-sense with visual perception is the inevitable conclusion to which it brings us. But, of course, it is more than a mere argument for a modern theory. It is, in fact, an exhaustive and masterly presentation of the entire subject of color-vision, from every standpoint. Extremely interesting is the very thorough discussion of the various theories of color-vision, with their implied theories of color-blindness. It is not a book of immediate practical value for the general practitioner, nevertheless, a large number of general practitioners will read it with profit and pleasure.

SIMON: "INFECTION AND IMMUNITY"

Infection and Immunity: A Textbook of Immunology and Serology; For Students and Practitioners. By Chas. E. Simon, B. A., M. D. Third edition, revised and enlarged. Illustrated. Philadelphia and New York: Lea & Febiger. 1915. Price $3.25.

The special features of the new edition of this standard work include a detailed consideration of the recent advances in the study of Abderbalden's protective ferments and its associated technic, a re-writing of the section on the Wassermann reaction, an account of the manner in which the danger from anaphylactic shock during serum-treatment may be reduced to a minimum, a discussion of the Schick reaction and of the possibility of influencing Hodgkin's disease by means of vaccine-treatment. In addition, a bibliography has been introduced, in which the reader who is sufficiently interested in the historical development of the subject or in the details of modern immunological research may find gathered together the more important references.

The author repeats his admonition, given in the first edition, that the book is intended merely as an introduction into this most intricate subject, to serve as a guide to further reading. He suggests that it might now serve as a basis for a course of systematic instruction in immunology in the schools of medicine, in combination with the usual course in clinical pathology in the third year, and he hopes that someone will have the courage to attempt such an innovation. We cordially echo the hope.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Answers to Queries

ANSWER TO QUERY 6028.—"Tic Douloureux." Regarding the treatment of tic douloureux, the subject of Query 6028 in the September CLINIC, the writer, for several years, has been prescribing, with very good success, for the relief of that as well as other neuralgias, the following mixture:

Ammonium chloride.....drs. 2
Tincture of aconite-root (U. S. P.)..gtt. 32
Camphorated water, enough to make.....ozs. 4

Direct the patient to take one teaspoonful every fifteen minutes until relieved, or until at most six doses have been taken.

GEO. D. STANTON.

Stonington, Conn.

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ANSWER TO QUERY 6036.—"Intercostal Neuralgia or Subluxation of Vertebra?" Relative to Query 6036, published in the October number: There is no doubt that in this patient a displaced vertebra is pressing on a nerve (intercostal), and that this produces the pain and the shingles. This patient could be cured by a very few osteopathic treatments, and perhaps by one treatment. I have had several such cases, and I know it can be done.

The vertebra nearest and closest to the painful spot in the spine is responsible for this condition. It is doubtful if a physician could give the treatment, unless he had seen treatments given. It is necessary first to select the proper vertebra. The patient should be placed across the bed. A trunk, flat top, is placed parallel with the bed and far enough away from it, so as to enable the patient to lie on the trunk (on which there is a pillow), with his head and upper portion of chest on the trunk and his hips resting on the bed. This would leave the abdomen free and the lower part of the chest free from contact. The patient is practically suspended, face down, the upper chest and head on the trunk, lower part of abdomen, hips, and legs on the bed.

One who understands could, by palpation, select the specific vertebra at once, and, by means of adjustment or reduction relieve the pressure on the nerve.

The adjustment is done by standing on the side toward which the dislocated vertebra points. The vertebra is rarely displaced as much as 1-4 inch to the right or left of the median spinal line, yet, this is sufficient to produce intercostal neuralgia. The pisiform bone—say, of the left wrist—is placed *against* the spinous process of the vertebra out of place. The right hand grasps the left wrist. In this position, a quick movement is given, with the idea of rapidly pushing the bone into place. Not much strength is needed. Quickness is the chief factor. If the proper vertebra is selected and the treatment is properly given, relief frequently follows (as personal experience has shown) at once. Sometimes it is necessary to repeat the treatment twice a day or once a day for several days.

Your comments on this case are logical and true. If the doctor (H. W. R.) can properly adjust the implicated vertebra, he will cure his patient. I am sorry that I am not near enough to offer my services.

J. M. SHALLER.

Davenport, Ia.

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ANSWER TO QUERY 6048.—In the November number of CLINICAL MEDICINE, in answer to Query 6048 I see that you say that normal saline solution is made by adding 8.5 Grams of sodium chloride to 1000 Grams of water.

I would like to raise an objection to the statement as it is printed. If you will look in Stedman's Medical Dictionary (which has, if I am not mistaken, been advertised in your journal) under the heading of solution you will find that there is a subhead as follows:

"Normal solution, one which contains in one liter sufficient of the dissolved substance to replace one Gram of hydrogen; the number of Grams per liter required to make a normal solution is that indicated by the molecular weight of the salt; a normal solution of NaCl contains therefore 58.37 Grams, or 5.837 percent, which is approximately ten times the strength of the physiological salt solution, usually called, incorrectly, a normal salt solution."

Some other texts use the words normal and physiological as if they were of identical meaning, which they are not.

While teaching a beginning class in surgery in one of the hospitals in Ann Arbor a few years ago I brought up the same question and referred it to the Department of Chemistry. None of the ones that I asked about it knew of or could find out anything about any authority to use the word "normal" where the word "physiological" belonged. It seems to me that there should be more persons aware of the real meaning of the word "normal."

I have in mind one case which I did not see but which was given me as facts by the man who married the nurse on the case. A physician, whom I knew personally, performed an operation on a woman, and after doing some kind of pelvic work closed up the abdomen with the patient bordering on shock. Among other orders that he gave the nurse was that at a certain time the patient should get a quart of "normal salt under the breast." The nurse in question did not know how to make the solution or did not have things handy, so she asked a druggist to make up a quart of "normal salt solution" for her. The druggist did so. This solution was given as directed and as a result the patient's breast was said to have sloughed off.

In my estimation it is dangerous to call the solution used as referred to in Question 6048 a "normal" one. The word should be "physiological."

F. F. Fellows.

McMinnville, Ore.

[There is no chance for argument with Doctor Fellows. He is right, of course. The term "normal" was used incorrectly, in accordance with the careless custom of the times. "Physiological" is better, though not itself descriptive. "Isotonic" is still better.—Ed.]

Queries

Query 6050.—"Dermoid Cyst of Pelvis." W. L. B., New Hampshire, asks diagnostic and therapeutic suggestions in the case of a woman of 27, with family history negative, married four years, who has always been in the best of health up to about one year ago, when she was taken ill at stool. "On that occasion, she was taken with great pelvic pain and tenderness on pressure, which gradually passed away, and for ten days her condition presented a typical typhoid course, but a Widal test was negative. Examination per vagina revealed an enlargement of the uterus posteriorly. The fever continuing, the patient was taken to the hospital. The white blood-cells were found to be abnormal. The enlargement back of the uterus was opened through the vagina, and it proved to be a dermoid cyst, which had ruptured and set up pelvic peritonitis. A few days later, the right ovary was removed, together with the cyst. There were many adhesions. In three hours, everything was cleaned out as thoroughly as possible, and recovery was so rapid that after a few weeks the patient was back to her normal weight—about 190 pounds.

"Now, for the past six months, she has felt a dull pain over the uterus and in her right side; this is present constantly, but at times it is peculiarly sharp, especially when the bowels act. Two months ago, she had fever for four days and much pain over the womb. The dull pain continues low down at present, and it is worse at stool. Its posterior part is enlarged and very tender. Coitus causes pain and increased tenderness. Cystitis, with some bloody discharge at the same time, occurs every few weeks, and urination is painful. Her urine apparently is normal; her color is good; she is not very nervous and does not worry about herself much; however, she gets exhausted and out of breath easily.

"Do you think there is danger of the contents of the old cyst causing the present irritation, and, maybe, cancer or another cyst or pelvic peritonitis? So much trouble hardly could come from adhesion alone."

As you can readily understand, doctor, it is very difficult to express an opinion in a case of this kind without one's making a thorough examination of the individual. It is a question as to whether an auxiliary cyst does exist or not. The fact that at intervals there is a bloody discharge from the bladder would lead us to the conclusion that that viscus is connected with a cyst or pocket

which periodically discharges its contents. Naturally, more or less absorption must occur, and we wonder, under the circumstances, that the woman's general health remains so good.

The rise of temperature which occurred two months ago, with pain over the uterus, is most significant. We are inclined to think that the sooner this woman submits to an operation, the better her chance of ultimate recovery; still, drainage through Douglas' cul-de-sac may suffice.

It would be well to send a specimen of blood and urine (4 ounces from the 24-hour output, stating total quantity voided) to a pathologist, for examination. In the meantime, we should be inclined to push echinacoid and calcium sulphide, in alternation with nuclein. Wash out the bowel every second day with normal salt solution at body-temperature. Also, give copious hot vaginal douches of chinosol-solution. Then pack the vagina with gauze strips, the upper 4 inches of which should be saturated with ichthyol and glycerin. A few inunctions of colloidal-silver ointment (unguentum Crédé) would, probably, prove beneficial.

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Query 6050.—"Action of Pineal-Gland Extract." J. W. G., Ohio, requests us to provide him with literature on the medical properties of pineal gland. He is treating a child twenty months of age, apparently near-sighted, with internal squint, and of deficient mental development. The child is well nourished and otherwise healthy, except for some weakness of the ankle-joints. The child does not sit up alone or walk unless supported by the mother.

We are unable to furnish the desired literature. Armour & Company manufacture a tablet of pineal-gland extract, also the powdered gland substance, the price of the latter being $5.00 per dram.

A summary of the anatomy and function of the gland and recent experimental work upon it will be found in Vincent's "Internal Secretion and Ductless Glands." See also Bailey and Jelliffe's monograph, which appeared in *The Archives of Internal Medicine* of 1911; and the exhaustive article by Charles Dana and William Berkeley on "The Functions of the Pineal Gland," printed in *The Medical Record* for May 10, 1914.

What we at present know of the pineal gland is derived from experiments on animals (with extracts of the gland), clinical and pathological studies, and a consideration of the embryology and phylogeny. Intravenous injections of a properly prepared extract are said to cause lowering of the blood pressure; small doses so injected having no such action, according to Cyon, but in large doses, he reports, the heart beat increased in strength and became slower.

Pineal extract causes vasodilatation in the genitalia of male cats; it also causes diuresis and increased volume of the kidney.

As you will gather, the reports as to the physiological action of extracts of this gland are somewhat contradictory. It is supposed to stimulate unstriped muscular tissue of the intestines, uterus, and pupils, and to cause vasodilatation of the genitalia and kidneys, transitory diuresis, glycosuria, and stimulation of metabolism.

It remains for physiologists and pathologists definitely to determine the function of the gland.

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Query 6051.—"Premature Ejaculation." C. A. L., Massachusetts, wishes to know what to prescribe for premature ejaculation.

In the first place, the cause of premature ejaculation must be ascertained in each case and treatment based upon a clear conception of basal pathology. In many cases, the instillation of nitrate of silver by means of an Ultzmann syringe, beginning with 1 grain to the ounce and increasing at subsequent treatments to 5, 10 or even 15 grains, may be tried. Such injections should be given twice or rarely three times a week. Hot rectal douches do much to improve the condition. Frequently massage of the prostate gland and seminal vesicles proves extremely beneficial.

It is unwise, however, to institute treatment, unless one is sure of vesicular and prostatic-urethral conditions. Not infrequently a small eroded area in the prostatic urethra is the cause of the trouble. Sometimes the disorder is of psychic origin or is due to debility. Such patients may receive hot and cold applications to the perineum; also cool salt enemata. Internally, small doses of hydrastoid, hamameloid, and hyoscyamine are advisable, with lecithin and nuclein as alternants. Also, frequently, a pill containing strychnine hypophosphite, gr. 1-100; phosphorus, gr. 1-200; cornuoid, gr. 1-6; cactoid, gr. 1-64; nuclein solution, m. 5; three times daily may be given with advantage. Staphisagria is another useful remedy.

Frequently, premature ejaculation proves rebellious to all treatment, and, again, as has already been pointed out, the correction of a very simple lesion causes prompt disappearance of the symptoms.

If you will make a thorough examination of the patient and report your findings, we shall be in a position to aid you more intelligently.

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QUERY 6052.—"Nervousness." J. M. I., Illinois, desires help in treating a patient, aged forty-nine, who says he is of "nervous temperament."

"His hands and feet are cold; has spots on body that feel as though they were being burned; has a feeling as though ants were crawling over his body; has headache at times, usually suboccipital, at times frontal, then may change to temporal; constant roaring in ears, this latter symptom, however, not having bothered him for a year past. The 'burning spots' will disappear for two weeks, then return on another part of the body.

"His urine has been examined 'twenty times' and found to be O. K. This man feels like doing a big day's work. He is now on a farm, but cannot keep up the pace. If he works right up to the meal hour, he cannot eat or even take a drink of water, but if allowed to sit around and read for an hour he then can eat. He was operated upon for appendicitis a little over two years ago and pus flowed from the wound for five months."

We regret to say the clinical picture is so vague that we are unable to venture a diagnosis. You state that the man's urine "has been examined twenty times and found to be O. K." We should, nevertheless, very much like to have you send a specimen (4 ounces from the 24-hour output, stating total quantity voided) to a pathologist, for examination, and at the same time give us as clear an idea of the patient's condition as can be secured from a very thorough physical examination.

The reflexes should be tested, blood pressure, pulse rate, heart sounds, and morning and evening temperature ascertained. See if you can discover splenic or hepatic engorgement. Examine the spinal region carefully for anesthetic or hyperesthetic areas. What about the patient's sexual habits and history?

Formication, as you are aware, occurs frequently in diabetes; it is an occasional premonitory symptom of apoplexy and may occur as a consequence of a tumor of the brain. It is most frequently observed in hysteria and neurasthenia; more rarely in the earlier stages of locomotor ataxia, chronic spinal meningitis, myelitis, disseminated sclerosis, hepatic congestion, socalled "gouty diathesis," and cases of granular kidney.

Tingling and burning in various parts of the body may merely evidence disordered body-chemistry and not infrequently is a premonitory symptom of herpes; is frequently observed in hysteria and neurasthenia; and sometimes is present in the early stages of myelitis, locomotor ataxia, and appendicitis (here presenting, as a rule, in the right leg). In brain tumor, the parts supplied from the seat of the lesion are affected.

Considering the age of the patient, the possibility of an oncoming sclerosis or even myelitis must be considered. On the other hand, if the patient is of a nervous temperament and passing through the critical period of man's life, it is more than likely that the whole train of symptoms, evidencing sclerosis, will disappear under thorough elimination and the administration of tonic reconstructants and positive suggestion. Ascertain condition of the prostate gland.

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QUERY 6053.—"What Was the Real Cause of Death?" W. S., Minnesota, writes: "Early in January you had examined for me a specimen of urine, to aid me in arriving at a diagnosis. This case (which has just terminated in death) has been very puzzling throughout, and perhaps a short history thereof will be of some general interest.

"The first time I was called, in July, 1914, to this patient, he was suffering from a violent attack of cholera morbus. He made a good recovery and resumed his work as scaler in logging-camps. During the next four months, he worked steadily, but had two sharp attacks of cystitis, evidently exacerbations of a chronic condition. In November, he complained of a severe pain setting in under the point of the right scapula after walking or riding any distance and which was relieved by sitting so that he could put considerable pressure on the painful part, as by leaning against a tree or building.

"At that time, I saw him once a week, then, after four weeks, as his condition was becoming worse, and the work required constant riding or walking, I advised him to give up work for a time. Thereupon I saw him more often. After many uranalyses, I found albumin in January, and it was then that I sent the specimen to you to have it tested at a reliable laboratory.

"About the middle of January, the man was somewhat improved, but I could make no satisfactory diagnosis, and, so, I advised him to consult the Mayos. He started for Rochester, but at a stopover visit some friends persuaded him to see a physician in

that city. The latter kept him under observation for ten days, using x-ray, cystoscope, uranalyses, ureteral catheterization, and so on, and finally said there was pus from the right kidney, chronic cystitis, suspected malignancy at the pylorus, and cirrhosis of the liver.

"A sample of pus was sent to the state board of health, where the bacillus coli was isolated and an autogenous vaccine made. Of this vaccine, I gave the patient ten injections, 0.2 Cc. at first, later, 0.3 Cc., and once 0.5 Cc. No reaction whatever followed these injections.

"Following the vaccine-treatment, in the absence of any definite diagnosis, I resumed my former line of treatment, prescribing according to symptoms, until April, when the patient was so much improved that he moved onto a farm, and I have not seen him since then.

"After a month, during which time he ignored my direction not to do any hard work, he was again down and under treatment of a local physician, who was directed by the outside doctor above referred to. After a short time, he returned to that doctor for further examination, and in about two weeks was sent home to die of 'cancer of the colon,' located back of the bladder. On the way home, he was taken violently ill, and was taken to a contract mine hospital at C—. Here, one of the staff physicians insisted that there was a cancer in the rectum and this had opened into the bladder. He thus accounted for the quantity of gas passed by the urethra. The other physician there was just as sure that there was no cancer, but thought the right kidney had entirely sloughed away. About a week before death, the man passed from the bowel a very hard mass (as hard as soft stone), which was assumed to be 'sloughing of cancerous material.' While at the hospital the patient gradually failed in strength, had repeated chills, little or no fever, much pain and prostration. His heart and respiration were normal and he was fully conscious until about one hour before death.

"At the postmortem examination, the liver was found in perfect condition; the kidneys were normal, except for a scar of a fully healed lesion, the nature of which could not be determined; the stomach, the gall-bladder, and intestines were normal, except that the caliber of the intestines near the pylorus was somewhat narrowed. The bladder showed a chronic cystitis and there was hardening of the walls.

"'Septic poisoning from absorption from the bladder' was the cause of death, as given in the death-certificate."

This is a most interesting case and shows how frequently erroneous diagnoses are made. We are inclined to believe that the supposed "cancer" was really a fecal concretion or impacted enterolith. Pressure-necrosis doubtless occurred, with resultant vesical fistula. The direct cause of death was probably generalized sepsis, due to the absorption of toxic material.

Such cases are, of course, highly instructive; however, it is more than probable that, had an Abderhalden test been made some time earlier, the patient would not have been sent home "to die of cancer of the colon."

Not many years ago, this writer was called to attend a physician in the immediate neighborhood who was supposed to be dying of carcinoma of the colon. Kerosene enemata, with proper positioning, and massage brought away a fecal mass the size of and as hard as a Michigan potato, through the center of which ran a tortuous channel. Fluid feces, in small quantity, were thus alone able to pass and the patient was slowly dying from retention toxemia. As soon as the mass was removed, cachexia disappeared, and in a month the patient was able to resume practice.

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QUERY 6054.—"Dysmenorrhea." A Pennsylvania physician presents a short history of a case and asks for therapeutic suggestions. "Woman, twenty-five years old, single, began menstruating at thirteen and was normal for one year. During this year she played basket-ball quite hard and rode horseback a good deal, falling once, but (seemingly) she recovered in a short time. Shortly after the first year of menstruation, she flowed very profusely and would menstruate every two weeks or upon the least overexertion, but with little or no pain, for about six months, then slight pains began and gradually grew worse until they became labor-like. She has been under the care of twelve different doctors, but has received very little benefit. Her stomach is not able to stand very much medicine, though between the attacks she can eat and digest almost any kind of food.

"During the past eighteen months, she has been under the influence of ether over sixty times, this agent affording the only relief. I have had her under my care for the past six months, and by deep pressure low down in the abdomen I am able to inhibit the uterine plexus, and then an H-M-C No. 1 will give

relief for a few hours. Lately, however, this causes nausea and vomiting. The uterus has been dilated several times, and two months ago I dilated and inserted a drainage-tube; and, while this sets up considerable irritation, she has been better than for years. I might add that I have also used heat, vaginal douches, and depleting suppositories all the time."

As you will readily understand, it is a little difficult to prescribe intelligently for dysmenorrhea without making a careful examination of the patient or at least being thoroughly familiar with general and pelvic conditions.

We are inclined to believe, however, that you may exclude in this case malformation and undevelopment of the genital organs; and, as dilatation has been performed, it is reasonable to conclude that stenosis does not cause the pain, though, as you are aware, stenosis is characterized by expulsive and laborlike pains followed by discharge of blood in clots.

In neuralgia, pain begins before the flow and ceases with its appearance. Occasionally, however, it may continue intermittently during the entire flow. Agony in some cases is so acute that patient becomes hysterical or faints. Pain is not fixed, but shoots from the pelvis down the thighs or into the abdomen and thorax. Invariably the general health of the patient is bad.

In pelvic congestion and inflammation, pain is situated mostly in the pelvis, back, hypogastric and inguinal regions. The pain usually precedes the flow and gradually ceases after it is established. The character of the pain may be dull, heavy, bearingdown or dragging.

You do not state the character of the discharge. The general history would lead us to believe that you have to deal with endometritis. Search carefully for shreds. Here, the pain begins with menstruation and continues to grow more and more severe, becoming laborlike in character until finally the membrane is expelled. Such expulsion is usually followed for a few hours by excessive bleeding. There may be during the intermenstrual period a sanguineopurulent leucorrhea.

It is quite possible, of course, that dislocation, probably anterior, of the uterus exists, but it is unusual, under such circumstances, for the pain to be as intense as it appears to be here. It is to be borne in mind that the bend in the uterine canal forms an angle which not only obstructs the flow, but sets up a thickening of the endometrium. The congestion, incident to menstruation, causes further congestion, therefore, increases the obstruction. These cases are readily cured by the correction of the displacement and insertion of an intrauterine stem.

We suggest that a very thorough examination be made in this case. If there is the slightest suspicion of anteflexion, a stem should be inserted. Should you suspect endometritis, curette lightly and send scrapings to a reliable laboratory, for examination. We take it that the woman's bowels are kept freely open. Has the patient's urine been examined?

QUERY 6055.—"Serum-Therapy and Iodine." C. A. T., Kentucky, asks us to explain how and where the different serums are introduced into the body. "This serum-therapy," he says, "is new to me. Why do surgeons use tincture of iodine on the field of operation. What is meant by ampule?"

It is out of the question to condense into reasonable space even the principles of serotherapy alone; hence, we must refer you to the textbooks, and one of the best works on this subject is Bosanquet and Eyre's "Serums, Vaccines, and Toxins," published by the Funk & Wagnalls Company (price $2.00).

In preparing the field of operation, surgeons use iodine, as this is now recognized as one of the best antiseptics and bactericides available. In order to secure greater penetration, it is frequently mixed with glycerin. Ichthyol, iodine, and glycerin, in proper proportions, are also used in the cavities of the body.

An ampule is a small glass container, sealed air-tight, employed by manufacturers in which to market serums and bacterins and other liquid preparations subject to deterioration or for the sake of accurate dosage.

The word ampule, as now used commercially, is the English form adapted from the French *ampoule*, this, again, being derived from the Latin *ampulla*. The term is also used in anatomy to describe any flasklike dilatation of a canal, as, for instance, the ampulla canaliculi lacrimalis, an enlarged portion of the lacrimal canal, or tear-duct; the ampulla of the fallopian tube is the external half thereof; the ampulla of the rectum is the dilated portion of the rectum near its termination. The ordinary meaning of the word ampule is really a flask-shaped glass container.

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